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VOCATIONAL ANALYSIS OF MALE COLLEGE GRADUATES IN LIBERAL ARTS.

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A SURVEY OF LIBERAL ARTS COLLEGE ALUMNI PROVIDED INFORMATION ABOUT CAREER PATTERNS. CROSS SECTIONS OF ALUMNI FROM THE EARLY TO THE MIDDLE STAGES OF DEVELOPMENT INCLUDED ONE GROUP OUT OF COLLEGE FOR FIVE YEARS, ONE FOR 10, AND ONE FOR 15. THESE GRADUATES WERE SENT A 62-ITEM QUESTIONNAIRE WHICH ELICITED INFORMATION ABOUT THEIR EDUCATION, SELF-APPRAISAL OF EDUCATION, CAREER STATUS AND PATTERNS, FACTORS INFLUENTIAL IN THEIR CAREERS, AND APPRAISAL OF THEIR CAREERS. INTELLECTUAL AND CULTURAL INTERESTS, CIVIC AND SOCIAL CONTRIBUTIONS, AND THE MARRIAGE AND FAMILY ARE ALSO ANALYZED. THE RESULTS OF EACH QUESTIONNAIRE ITEM ARE PRESENTED IN TABLES AND A DISCUSSION OF EACH TABLE IS PROVIDED. (PS)

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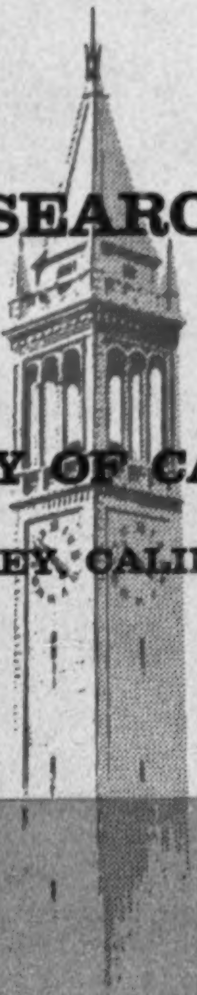

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BERKELEY, CALIFORNIA

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Cooperative Research Project No. 1924

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Robert Calvert, Jr.

The research reported herein was supported by the
Cooperative Research Program of the U.S. Office of
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Survey Research Center
University of California, Berkeley

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PREFACE

This is a report on higher education, but from an unusual point of view. Much of the commentary on collegiate education comes from persons immediately involved in the process--from students, professors, deans, and college presidents. This report is based upon the statements of college graduates who, in retrospect, review their education and its role in their careers and personal life.

As is the case with any study, this research has many antecedents. Working 20 years ago as a personal loan interviewer for a metropolitan New York bank, the author became convinced that, as unfortunate as money problems may be, the most actue distress was caused by career failures. This failure, too often, resulted either from no help or from actual misdirection. Later, viewing the utility of the study most closely related to this one, as presented in the book They Went to College,(1) the author was struck with the need for more studies about the careers of college graduates. Fifteen years of career counseling, on campuses ranging from a small, coeducational liberal arts college in Indiana to the campus of the largest state university in California, impressed upon the author the dearth of usable information upon which to base career guidance.

These antecedents would still be classed as "concerns" had it not been for the willingness of Charles Y. Glock, Director of the Survey Research Center at the University of California at Berkeley, to help turn aspirations into reality. His personal interest in a definitive study of college alumni and his willingness to provide technical information and professional support to a professional career counselor made this research and report possible. My personal obligation to Charles Glock cannot be overstated.

As is true of most projects of this magnitude, whole cohorts of colleagues played significant roles at different stages. Technical advice on selection of the sample was provided by William L. Nicholls II of the Survey Research Center. Mrs. D. J. Miller directed this phase of the project, aided by Ann and Jim Burk and Ann Stoops. The questionnaire was developed with counsel from both Robert E. Mitchell and Joseph Spaeth of the Survey Research Center.

Mrs. Beth Huttman directed the project during its middle stages, supervising the mailing of questionnaires and subsequent follow-up; coding, editing, and punching the returns; and developing the rough outline of the tables. Her key role in this project also cannot be overemphasized. Working closely with her were coding supervisors Peg Templeton and Judy Muhlfelder.

Finally, Virginia Norris played a major role in helping develop the final format of the report.

June 25, 1967

Robert Calvert, Jr.

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PART I: THE GRADUATES

The opening part provides an overview of the role of general education in the United States and describes the design of this study of liberal arts graduates.

To provide an appropriate background setting for the study, Chapter 1 briefly reviews the historical development of liberal education and delineates some of its most pressing current issues. In an age of increasing technology, what has happened to enrollments in the liberal arts? How has liberal education been affected by current political and economic demands?

Chapter 2 outlines the design and conduct of the study of liberal arts alumni. It describes the research rationale, the characteristics of the cooperating educational institutions and individual alumni, and the method of contact. What measures were taken to help insure a representative group of liberal arts institutions from the standpoints of size, quality, and type of control? How were these distinguishing criteria interrelated? What portion of the contacted alumni responded? What, if any, bias was injected by the existence of non-respondents?

Chapter 1: The Changing Role of Liberal Education

For colleges and universities in the United States, conditions have seldom been more favorable. Their financial problems are being met by increasing billions of dollars of state and federal support, aid from private foundations, rising returns on endowments, and the economic benefits of operating with near-maximum enrollments. Their academic standards are aided by the bins full of applications from young men and women who from early childhood have been engaged in a great national competition to gain admission to the best possible college. Their faculty and staff recruitment benefits from a new mood of respect for the academic life, aided no little by full professorships which pay near Madison-Avenue-level salaries.

Where time can be spared from actions necessary to operate the basic educational program and from essential public contacts, the presidents of our colleges and universities and their top assistants focus attention on new building programs, on development of new research or service institutes, on complying with reports to account for funds received in the past and stimulating awards of new monies in the future or on attempting to analyse the student mores of today.

The colleges are concerned about what happens after graduation to their alumni, but this concern has a low action priority. Furthermore, so little research has been done in this area that substantive action, let alone discussion, is difficult. Their students, in turn, have been so preoccupied with the frenzied dash to gain admission to college that often little thought has been given to the life which follows. Here, too, planning is handicapped by lack of knowledge.

Interest is developing in the use made of the national manpower resource represented by the college graduate, but this interest is more a tide than a torrent. In The American College, Sanford pointed out that "there is a remarkable discrepancy between the wide public acceptance of the value of college education and the paucity of demonstrated knowledge that it does some good."(1) A foundation official cited better measurement and documentation of the outcomes of college education as one of four areas now most appropriate for foundation support. He noted: "In promotional literature colleges and universities boast about the achievements of their alumni, but rarely are the claims supported by more than conjecture or piecemeal data."(2)

Even professional schools collect little meaningful information about the subsequent activities of their graduates. Gordon and Howell have pointed out: "Relatively few business schools know very much about the careers their graduates follow, and they lose contact with students very quickly after graduation."(3)

This report, then, seeks to help bridge the gap in knowledge about the effects of college education by reporting a survey of 11,000 college graduates regarding their education, their careers, and their lives. The survey was supported by a grant from the Cooperative Research Branch of the U.S. Office of Education and was aided by a supplementary grant from the Carnegie Corporation of New York. For these grants and for the cooperation of 100 representative colleges and universities drawn from all areas of the country, we express our deep gratitude.

To focus upon alumni whose experiences might be the most useful, it was decided to limit the study to graduates who majored in liberal arts. The survey was limited to male graduates in order to maximize the response from those who had embarked on full-time careers.

Historically, liberal education has been the cornerstone of American higher education. Even today, three-fourths of all colleges and universities offer degree programs in liberal arts, and approximately 40 percent of all male baccalaureate graduates receive their degrees in the liberal arts.

The career patterns of liberal arts alumni present more of an enigma to the concerned educator than do the career patterns of graduates from professional programs. Obviously, the liberal arts graduate finds no clear career pattern laid out before him. Thus it is in this area, where information is most needed, that this survey seeks to make its contribution.

The Historical Role of Liberal Education

The term "liberal arts" is derived from the Latin artes liberales, the higher arts, which in early Roman times were accessible only to freemen (liberi). But the tradition of liberal education dates back at least to Greece, to Plato and his Academy with its devotion to truth and learning for their own sake. Even then, there were parallel and often competing ideas of the goals of learning. Pythagoras and his followers were concentrating upon the study of mathematics and astronomy, while the Sophists were concerned with instructions in such useful subjects as rhetoric. As Clark Kerr points out:

> The modern academican likes to trace his intellectual forebears to the groves of Academe; but the modern university with its professional schools and scientific institutes might lobk equally to the Sophists and the Pythagoreans... The 'Two Cultures' or the 'Three Cultures' are almost as old as culture itself.(4)

The great medieval universities of Europe helped to perpetuate these diverse educational outlooks. The University of Paris became a leader in the study of the classics, philosophy, and theology, and established a pattern for the early development of Oxford and Cambridge along the lines of the liberal arts tradition. Salerno and Bologna were the professional centers, excelling in medicine and law.

In England, Francis Bacon argued for a utilitarian approach to education and decried the pursuit of learning for its own sake. This attitude was later strongly opposed by one of history's most eloquent defenders of liberal education, Cardinal Newman, who declared: "Knowledge is capable of being its own end. Such is the constitution of the human mind, that any kind of knowledge, if it really be such, is its own reward."(5) University education, Newman said:

> ...aims at raising the intellectual tone of society, at cultivating the public mind, at purifying the national taste, at supplying true principles to popular enthusiasm and fixed aims to popular aspirations at giving enlargement and sobriety to the ideas of the age, at facilitating the exercise of political powers, and refining the intercourse of private life..../It prepares a man/ to fill any post with credit, and to master any subject with facility.(6)

The nine colleges of Colonial America strongly reflected the views of Newman and of the Oxford of his times. "They offered little or no opportunity for specialization, taught little science, and their faculty members engaged in little research."(7) When modern languages and natural sciences entered the curriculum in the early part of the nineteenth century, many students avoided them as inferior substitutes for Greek, Latin, mathematics, and philosophy. Almost all the students used college as a gateway to careers in the ministry, law, and medicine.

In the last half of the nineteenth century, a number of factors influenced higher education. The scientific revolution was having its effect upon the university curriculum and upon the development of research, first in the German universities and then elsewhere. In America the great liberal arts institutions such as Harvard and Johns Hopkins broadened their scope and developed facilities for professional specialization. The agrarian concerns of the country and the interests of both federal and state governments in expanded educational opportunity culminated in the passage of the Morrill Act in 1862, laying the foundation for the great network of land-grant colleges and universities across America. Agriculture, engineering, and mining took their place in the curriculum beside the liberal arts. While elementary and secondary school teachers first prepared at special two-year normal schools, before long many colleges, including liberal arts institution, were devoting a considerable portion of their energies to students seeking preparation for teaching careers. Even traditional liberal arts fields underwent transformation. The natural sciences--zoology, geology, botany--were added to the classical fields of mathematics and astronomy. The social sciences--political science, economics, psychology--developed as distinct disciplines instead of components of philosophy or history. The days were gone when one broadly-educated professor could teach courses in philosophy, mathematics, and biology. Specialization and achievement within a single field became increasingly important for faculty appointment and promotion. As Schmidt observed: "The Yale catalog for 1829 managed to include the entire four-year course of study in one page; in 1955 it took two hundred pages to list the undergraduate fields of study."(8)

Despite these changes, the liberal arts continued as the cornerstone of American higher education. In 1955, John Millett was saying:

> Not in nearly one hundred years has the appreciation of the need for a liberal education been more widespread in education circles...Today there is a new desire to make a liberal education meaningful....Scientific inquiry has had its field day (emphasis added).(9)

Around the same time, President Kappel of the American Telephone and Telegraph Company was speculating: "It seems to me almost certain that a great expansion of liberal arts education lies immediately ahead."(10)

Before the end of 1957, Russia had launched both Sputnik and the Space Age. The resultant enormous spurt in emphasis on science and technology affected the liberal arts. By 1963, IBM's Thomas Watson was warning:

> ...the events of the past six years have had an impact on eudcation which should concern us all; in the blazing light of man-made comets, the continuing need for an appropriate balance between science and humanities has been blotted out.(11)

What, then, is the role of the liberal arts college in the modern world? How will general education evolve in the years ahead? It is hoped that studies such as this one will help provide accurate information on the present-day relevance of liberal education and a basis for more informed speculation about its role in future American history.

The Sheepskin Explosion and the Liberal Arts

As higher education has become more diverse and complex, it has also absorbed a spectacular rise in enrollments. Between 1870 and 1940 our national population tripled--but the number of college students was multiplied 19 times. Between 1940 and 1962, the median years of education completed by men between 18 and 64 years old rose from 7.7 to 12.1,(12) and twice as many men 25 years and older had completed four years of college.(13) Moreover, these trends appear likely to continue well into the future. Statistical projections suggest that between the years 1960 and 2000, the percentage of 22-year-olds with bachelor's degrees will double, while the percentage of 25-year-olds with master's degrees will triple, and the percentage of 28-year-olds with doctorates will quadruple.(14)

What impact has this rapid growth rate had on enrollments in the liberal arts? Has the growth occurred primarily in professional and technical fields?

The data in Table 1-1 show that enrollments in liberal arts fields have remained remarkably constant over the past six decades. The percentage of college graduates with liberal arts majors dropped from 42.7 percent in 1901-05 to a mid-period 36.7 percent in 1931-35 and then climbed back up to 44.6 percent in 1961-62. The sharpest losses occurred in the humanities and arts, which declined over the period from 25.3 percent to 14.5 percent, with foreign languages showing the greatest loss in these disciplines (12.2 to 2.1 percent). The greatest gains occurred in the social sciences, up from 3.8 percent to 15.2 percent. The natural sciences held fairly steady, with a decline in chemistry counterbalanced by an increase in physical sciences and mathematics. (Table 1-1 is on page 6.)

Fields outside the liberal arts remained relatively constant in total enrollments (down from 57.3 to 55.4 percent) but exhibited sharp shifts by subject area. Education climbed from 0.4 to 25.4 percent, business and commerce from 0.2 to 12.9 percent, and engineering from 3.3 to 8.6 percent. The sharpest declines were in health fields, from 33.2 to 3.0 percent, and

TABLE 1-1

Trends in Bachelor's and First Professional Degrees by Major Fields, 1901-1962

	1901-05	1931-35	1961-62
Natural Science	13.3%	10.4%	12.4%
Chemistry	3.7	2.9	2.1
Physical science	3.7	3.0	5.5
Earth science	1.1	10.0	0.4
Biological science	4.8	3.5	4.4
Psychology	0.3%	1.3%	2.5%
Social Science	3.8%	8.9%	15.2%
Economics	1.0	3.2	2.2
History	2.4	2.9	4.6
Other Social Science	0.4	2.8	8.4
Humanities and Arts	25.3%	16.1%	14.5%
English	7.0	6.2	6.9
Foreign Language	12.2	5.3	2.1
Philosophy	4.9	1.8	2.0
Fine arts	1.2	2.8	3.5
Sub-total for Liberal Arts	42.7%	36.7%	44.6%
Engineering	3.3%	8.0%	8.6%
Applied Biology	0.2%	4.2%	2.7%
Agriculture	0.2	1.9	1.6
Home Economics	--	2.3	1.1
Health Fields	33.2%	7.0%	3.0%
Medicine	18.6	3.6	--
Dentistry	8.0	1.4	--
Other Health Fields	6.6	2.0	3.0
Business and Commerce	0.2%	6.9%	12.9%
Education	0.4%	20.1%	25.4%

TABLE 1-1 (Continued)

	1901-05	1931-35	1961-62
Other Fields	20.0%	17.1%	2.8%
Law	11.2	6.1	0.1
Other professions	0.1	2.2	0.2
All other	8.7	8.8	2.5
Sub-total for Non-Liberal Arts	57.3%	63.3%	55.4%
TOTAL	100.0%	100.0%	100.0%

Sources: Dael Wolfle, America's Resources of Specialized Talent (New York: Harper, 1954), pp. 292-293.

Earned Degrees Conferred, 1961-1962, U. S. Office of Education Circular No. 719 (Washington: U. S. GOvernment Printing Office, 1963).

law, from 11.2 to 0.1 percent. Projections to 1975 suggest that these major trends will continue over the next decade.(15)

Current Problems in Liberal Education

Liberal arts education, while it continues to attract 40 percent of all undergraduate students, faces a number of problems which prompted this inquiry.

Conflict between general and scientific education. In his controversial 1959 Rede lecture at Cambridge, C.P. Snow pointed out that the "intellectual life of the whole of western society is increasingly being split into two polar groups...at one pole we have the literary intellectuals (and) at the other scientists, and as the most representative, the physical scientists."(16) This polarization affects the sometimes-uneasy union of the sciences with other majors within the liberal arts college. The Dean of that unstable campus federation known as the College of Arts and Sciences often looks upon the Chairman of the powerful Department of Chemistry with the same deference which the President of a land-grant university pays to the Dean of the College of Agriculture. Conflicts between the science and the other segments of the College may arise over the relative emphasis of scientific subjects in the curriculum, over basic courses provided for non-majors, and over the depth required in programs for majors, not to mention the inevitable competition for space, faculty, and research funds.

Pressure for early specialization. Barzun notes:

> ...the best colleges are being invaded, not to say dispossessed, by the advance agents of the professions, by men who want to seize upon the young recruit as soon as may be and train him in a 'tangible salable skill'...The undergraduate who can assist his instructor in the instructor's research, the youth who can get an essay published in a journal, the senior whose program is half made up of graduate courses--these are the models for envy and emulation. [The liberal arts college]... will find that the secondary school has added a year or two to its present curriculum: that the graduate school has kidnapped all the college juniors and seniors into its departments. All that will be left in college is the dean, and he is the most expendable of creatures.(17)

This is not a new problem. In 1947, a Presidential Commission on Higher Education noted that "the unity of liberal education has been splintered by overspecialization."(18)

Some have assumed that specialization and general education can be combined without loss to either. For example, Gordon and Howell say:

> Business looks to the colleges to give it generalists and specialists, if possible, embodied in the same person... If these courses are properly planned and well taught, no liberal arts college should be reluctant to accept them in partial fulfillment of the requirements for a liberal arts degree."(19)

Many skeptics, however, feel it is impossible to add both breadth and depth to the curriculum without expanding its length.

Withdrawal of faculty members from students. The increased availability of research funds from the federal government and the foundations during the past two decades has tended to shift the focus of much university activity from undergraduate teaching to sponsored research. The separation of students and faculty is accentuated also by the large classes used to cope with the related problems of rapidly-increasing enrollments, higher faculty salaries, and fewer teaching hours per week. The gulf between undergraduate student and researcher-teacher is most marked in the liberal arts college. In many scientific and professional fields faculty are somewhat closer to undergraduate students, who are viewed as future colleagues in a close professional fraternity.

Faculty focus on research has obvious effects upon the liberal arts curriculum. Cowley wonders where the liberal arts colleges will obtain teachers broad enough in their outlook to teach within a general education program.(20) Columbia College reports it is "difficult to persuade enough young faculty members to devote time--let along enthusiasm--to the teaching of an important part of the 'Contemporary Civilization' course."(21)

The emphasis on the public service role of higher education. Involvement in the economic development of their state is a relatively new departure for colleges and universities. Some university presidents take almost a chamber of commerce pride in the industries which now fringe the borders of their campus. Many members of state legislaturers are clearly more impressed with excellence in training for animal husbandry, highway design, and electronics than in early English dialects, woodwind harmony, or non-western languages. This emphasis detracts from the status of liberal arts and its own long-range contribution to society.

The poor quality of many liberal arts colleges. As the president of one top-flight institution said, "There is nothing quite as bad as a poor liberal arts college." Unfortunately, no college program is easier to administer, finance, equip, and house than liberal arts. The bottom several hundred liberal arts colleges in the United States demand a "raison d'etra." They offer a program with little of the intellectual atmosphere essential for a liberal education. Their faculty lacks real capacity to teach in the great tradition of liberal education, their curriculum is unimaginative, and their libraries are small or inappropriate. Even their teacher preparation programs often are vastly inferior to similar curricula at the frequently-damned used-to-be teachers colleges. These weak liberal arts institutions find it difficult to improve and almost as impossible to die.

Liberal arts useful only as pre-professional education. In 1964 the Office of Graduate and Career Plans at Harvard University reported that more of its senior class entered graduate school than went directly into business and industry. This highlights the growing tendency to consider liberal arts training as preliminary in nature, rather than as terminal education. If this judgment becomes more universal, it will have a profound effect on the design of liberal education.

The value of liberal arts as preparation for nonprofessional positions remains a puzzle which existing information does not solve. It appears that some employers who favor "liberal arts graduates" actually mean that the particular job requires no special training. In a book extolling the merits of liberal education, the head of a major corporation was quoted as saying: "...the real professional school of business is found directly in the field of industrial and commercial life."(22) Yet this president's corporation recruited graduates only at the business school of the college where I served as placement officer.

Long-range employment demand for college graduates. During the years that our alumni respondents were students, dire predictions were made about future employment prospects for college graduates.

> We are likely to educate, particularly in the post-graduate area, many more men and women than can earn a living in the field in which they have chosen to be educated, and too often anywhere also, and we shall find that, embittered with their frustration, these surplus graduates will turn upon society and the Government, more effectively and better armed in their destructive wrath by the education we have given them.(23)

Seymour Harris noted that the economy had absorbed only 2.7 million college graduates between 1870 and 1940 and concluded that it could not assimilate 10 million more between 1940 and 1968.(24) He said (emphasis his):

> *[It is] essential that the promised excess of supply of educated men and women over demand in the desired positions be advertised widely and the serious political, social, and economic repercussions be generally known*. Otherwise, our country will suffer greatly both from unemployment and low income in the learned profesions...(25)
>
> If the output of the colleges is to be absorbed, the graduate will have to be satisfied with openings not formerly acceptable... It will require a revolution in attitudes of college-trained men and women if the occupational downgrading of college-trained personnel is not to have serious social and political effects.(26)

Ten years later, Havighurst noted "the fact that there have been more jobs for college graduates than there have been qualified young people to fill those jobs has had the effect of expanding enrollment."(27) He predicted a surplus of college graduates beginning in 1960, however, and estimated the oversupply by 1980 at between 10 and 50 percent.

It is too early to assess Havighurst's conclusions, but those of Harris have proven pessimistic. He failed to anticipate the marked increase in business recruitment and the utilization of college alumni in sales and administrative positions, the growth of schools and educational techniques which required many new cohorts of teachers, and the manpower implications of the national defense effort including the wars in Korea and Vietnam and the Race for Space. In all fairness to Harris, it should be pointed out that the availability of college graduates has itself created an increase in demand: as employers sensed they could hire college graduates, more job openings were stamped "college degree required."

In short, employment conditions of the past few decades have provided an ideal economic climate for the alumni included in this study.

These, then, are some of the problems facing general education today. The purpose of this report is to provide background to aid in their solution.

Chapter 2: Research Rationale and Techniques(1)

This chapter describes the design and execution of the survey upon which this report is based. It begins by reviewing several basic decisions which shaped the study design. Then it defines the populations of schools and graduates selected, examines trends and correlations in these populations, introduces several key distinctions among the schools, outlines the sampling and field work methods, and presents an evaluation of the completed sample. To reduce the detail here, more complete information on the selection of the sample studied, the response rate, and other technical details appear in Appendix A.

The Study Design

The primary objectives of this study were to examine the career patterns of liberal arts alumni and their roles in a society marked by a heavy emphasis on science and specialized skills. For these purposes, a national sample of graduates was surveyed, with special emphasis on their occupational experiences and satisfactions and on their evaluations of their college training as seen from current perspectives. Such information, it was felt, would prove valuable to college officials who develop or revise liberal arts programs, to high school and college counselors who advise students regarding educational and career plans, to employers who hire (or specifically avoid hiring) liberal arts graduates, and to national leaders concerned with the utilization of manpower resources. Judging from individual comments on the questionnaires, the information would also prove of special interest to the graduates themselves.

Since a primary focus was to be on occupational adjustment, an early decision was made to restrict the survey to male graduates. Virtually all would be engaged in, or preparing for, full-time careers, and this would provide a common base of experience and interest about which they could be questioned. While a comparable study of women graduates would undoubtedly have proved interesting, its greater complexities suggested that it should not be attempted in the same survey.(2)

The study was further limited to graduates of the post-World War II period. Many changes had occurred during the war both in the occupational structure and in the vocational significance of higher education, thus making the experiences of earlier graduates less relevant to present day concerns. Very recent graduates, those who had been out of college less than five years, also were excluded, as large numbers would be in graduate or professional school or in temporary military service.

Since the study was to be conducted in 1963, this narrowed the relevant classes to those between 1948 and 1958. Three classes spanning this period were chosen for study, those of 1948, 1953, and 1958. Five, ten, and fifteen years after graduation, these classes would provide cross-sections of alumni from early to middle stages of career development.

To make comparisons between these classes most meaningful, however, it was necessary to insure at least some rough comparability in the type and quality of education they received. Between 1948 and 1958, several new colleges emerged, some formerly technical institutions established liberal arts programs, and existing liberal arts colleges grew at differing rates. Thus, if a separate sample were drawn for each year, each fully representative of all male liberal arts graduates in that year, the three samples would differ not only in number of years since graduation but also in the institutions where they were trained. To overcome this problem, only those colleges and universities which granted liberal arts degrees in all three years were included. The 1953 sample was then chosen to be representative of all male liberal arts graduates of those institutions in that year, and the 1948 and 1958 samples were selected solely for comparability as explained in the description of sampling below.

This design has important consequences for the interpretation of tables presented in this report. First, it must be recognized that none of the three samples is wholly representative of all male liberal arts graduates in that year. In particular, each omits graduates of emerging and submerging institutions and of those which established or abolished liberal arts programs during this period. Second, trends observed over the ten-year period must be recognized as trends within comparable samples of graduates from the same set of institutions. These need not correspond to trends among all male liberal arts graduates since the latter also would reflect changes in the population of institutions offering liberal arts degrees as well as differential growth rates among those granting liberal arts degrees throughout the period.

Definitions of the Populations

The population of liberal arts institutions was first restricted to accredited colleges and universities within the continental United States, Alaska excluded, which awarded bachelor's degrees to men in each of the academic years 1947-48, 1952-53, and 1957-58.(3) Then liberal arts institutions were identified within this set.

Liberal arts institutions were identified by their awarding of bachelor's degrees in distinctively liberal arts subjects rather than by the occasionally, misleading self-descriptions contained in college catalogs and announcements.(4) Six subject matter fields were selected as readily identifiable as part of a liberal arts curriculum. These were: (1) English; (2) fine and applied arts; (3) foreign languages and literature; (4) philosophy; (5) psychology; and (6) social science, here defined as history, sociology, or political science. Degrees in science and mathematics were not considered, since they are frequently granted by purely technical institutions. Only colleges and universities which awarded bachelor's degrees in at least three of the six designated fields were counted as liberal arts institutions, and a school had to qualify in 1947-48, 1952-53, and 1957-58 to be included.(5) In total, 412 colleges and universities were identified which satisfied all criteria for the study.

The population of liberal arts graduates also was delineated in two steps.

Initially, this population was defined as all males who graduated from the 412 liberal arts institutions in the three selected academic years with majors in the following subjects:

- Anatomy
- Anthropology
- Art or art history
- Biology and other bio-science fields
- Botany
- Chemistry
- Economics
- English
- Foreign languages and literature
- General programs in Humanities, social sciences or sciences
- Geography
- History
- Mathematics
- Music or music history
- Physics
- Philosophy or logic
- Physiology
- Pre-medical or pre-dental
- Political science
- Psychology
- Religion
- Sociology
- Speech or drama
- Zoology
- Other interdisciplinary majors which are combinations of the above

February and August graduates as well as those who received their degrees in June were included.

When additional information was received from the sample of schools and from the graduates themselves, the definition was further refined to exclude: (1) foreign students no longer living in the United States; (2) graduates whose degrees clearly were obtained in a non-liberal arts program, such as chemistry graduates of an engineering curriculum; and (3) persons who died before the summer of 1963. Graduates who completed a double major in a liberal arts subject in combination with a non-liberal arts field, such as economics and business administration, were included unless their questionnaires reported the non-liberal arts field as their primary field of training.

An Overview of the Populations

Before presenting sampling and field work methods, a brief overview of the total male liberal arts population is appropriate. This analysis, which is based on information available from Earned Degrees Conferred and similar published sources, serves three related purposes. First, it introduces several distinctions among the schools which are employed throughout the analysis. Second, it provides more complete information about the proportion of liberal arts degrees granted by various types of institutions than is available from the sample data analyzed in the remainder of the report. And third, it identifies trends in the populations which were intentionally removed to provide a comparable sample in each year.

In total 59,291 liberal arts bachelor's degrees were granted to men in 1948 by the 412 institutions in the school population. In 1953, the number of such degrees declined slightly to 56,075, but it rose sharply to 71,925 in 1958. This represented a 21 percent increase over the ten-year period. The pattern of growth did not proceed evenly in all types of schools, however. Important trends summarized in Table 2-1 are found by type of administrative control, school size, and academic quality.

TABLE 2-1

Liberal Arts Graduates in the Population by Control, Size, and Quality of the College

Control, Size, and Quality		Colleges		Percent of Liberal Arts Graduates In:					
		Number	Percent	1948		1953		1958	
Control									
Public-state		117	28.4%	32.8%	40	34.7%	39	42.0%	40
Public-municipal		11	2.7	7.1		4.7		4.4	
Roman Catholic		44	10.6	8.2	8	11.5	12	10.3	10
Private-Protestant		137	33.3	15.2	52	16.1	49	15.7	43
Private-secular		103	25.6	36.7		33.0		27.6	
Size									
Under 1,000	Small	168	40.8%	14.5%	30	16.5%	35	15.8%	34
1,000 - 2,499		109	26.4	15.5		18.9		18.3	
2,500 - 4,999	Medium	56	13.6	15.6	38	16.8	40	16.4	40
5,000 - 9,999		52	12.6	22.3		23.1		24.0	
10,000 - 13,999	Large	12	2.9	9.5	32	8.7	25	9.5	25
14,000 and over		15	3.7	22.6		16.3		16.0	
Quality									
27-30	High	34	8.2	23.6%	24	20.0%	20	17.7%	18
24-26		41	10.0	18.0	44	15.1	44	15.5	44
22-23	Medium	40	9.7	14.3		14.2		15.2	
19-21		52	12.6	12.2		14.6		13.4	
16-18		72	17.5	12.1	32	13.6	36	13.7	38
14-15	Low	59	14.3	10.2		9.3		10.7	
7-13		114	27.7	9.6		13.2		13.8	
Total = 100%		412	(412)	(59,291)		(56,075)		(71,925)	

Administrative control was determined by reference to the Education Directory, Part III, Higher Education for the appropriate years.(6) Five types of control were distinguished: state, municipal, Roman Catholic, Protestant, and private secular. For most of the analysis, however, these are grouped into three broader categories of public (state and municipal), Roman Catholic, and private (Protestant and private secular).

One major trend observed in Table 2-1 is the growing importance of public institutions (state and municipal) in the preparation of liberal arts graduates. In 1948, they accounted for 40 percent of the liberal arts degrees received by men, but in 1958 their proportion of the total had increased to 46 percent. Roman Catholic institutions also increased their proportion of the total between these two dates, from 8 percent to 10 percent, while the private colleges and universities experienced a relative (and absolute) decrease, from 52 to 43 percent. A closer look at the figures indicates that the increase in public school graduates is explained by the rapidly expanding state colleges and universities, while the declining production of the private institutions occurred in the private secular schools.

The size of an institution may be measured in a variety of ways, depending upon one's purpose. In this study, size was taken primarily as an indicator of the total social and intellectual climate of a campus, and, for this purpose, total student enrollment seemed the best measure. The count included, therefore, part-time as well as full-time students, and both those at the undergraduate and graduate levels. All classifications by size in this report refer to the fall enrollment for 1952-53, the middle year of the three chosen for investigation.(7) In some tables, a six-level classification is presented, but in most only three levels of size are employed: small (under 2,500 students); medium (2,500 to 9,999 students); and large (10,000 students or more).

When this trichotomy is employed, 30 percent of the 1948 male liberal arts graduates are found to have received their degrees from small institutions, 38 percent from medium-sized schools, and 32 percent from large universities. In 1958, the proportions graduating from small and medium-sized institutions had increased to 34 and 41 percent, respectively, while the large universities now accounted for only 25 percent of the total. The greatest relative decline occurred among the very largest schools, those with enrollments of 14,000 or more. Their proportion of the total male liberal arts graduates decreased from 23 percent in 1948 to only 16 percent in 1958.

A similar trend was observed by academic quality. This was measured by an index originally developed by Lazarsfeld and Thielens and modified here for a somewhat different time period and population of institutions.(8) While full details have been deferred to Appendix A, it may be sufficient here to note that the index is based on six factors: (1) total number of volumes in the school library; (2) number of library books per student; (3) total annual budget per student; (4) percentage of Ph.D.'s on the faculty; (5) tuition charges, with separate scales for public and private institutions; and (6) proportion of alumni who received selected academic distinctions. The resulting index scores generally have been grouped into three categories, labeled high (27 to 30 points), medium (19 to 26 points), and low (less than 19 points). Since the cutting points were chosen simply for convenience of analysis, the resulting categories must be seen merely as arbitrary groupings on a continuous scale, not as synonyms for more than adequate, adequate, and less than adequate quality.

As measured by this index, low-quality institutions increased their production of male liberal arts graduates most. In 1948, they accounted for 32 percent of the total; in 1958, they accounted for 38 percent. High-quality institutions evidenced a proportionate decline, from 24 to 18 percent, reflecting major policy decisions by several first-rank universities to restrict their growth during this period. While this and the foregoing trend might differ somewhat if changes in quality and size during the ten-year period were taken into account, they do suggest that the most rapid growth during this general period of expansion was taking place among institutions at the lower ends of the quality and size spectrums.

As would be expected, control, size, and quality proved to be related characteristics. Since the same relationships appear in the sample, it is important to remain aware of them in drawing interpretations from tables where they are employed. As shown in Table 2-2, for example, none of the Catholic schools was classified as "large" or of "high" quality by the procedures just described, and of the remaining colleges and universities, the private institutions tend to be smaller than the public institutions.

TABLE 2-2

College Size and Quality by Control: Population

		Control		
Size and Quality		Catholic	Public	Private
Size				
Under 1,000	Small	32%	13%	57%
1,000 - 2,499		32	29	24
2,500 - 4,999	Medium	13	24	9
5,000 - 9,999		23	21	6
10,000 and over	Large	-	13	4
Quality				
27-30	High	-%	6%	11%
24-26	Medium	5	10	11
22-23		-	16	8
19-21		5	15	13
16-18	Low	20	16	18
14-15		20	9	16
7-13		50	28	23
Total = 100%		(44)	(128)	(240)

Perhaps the most important relationship, however, is that between size and quality shown in Table 2-3. Although there are exceptions, the larger schools generally are higher in quality. As a result, when graduates of large schools are compared with graduates of small schools, it must be recognized that they also tend to differ in the quality of the institutions where they were trained. (Table 2-3 is on page 17.)

TABLE 2-3

College Quality by Size: Population

		Size				
Quality		Under 1,000	1,000-2,499	2,500-4,999	5,000-9,999	10,000 and over
27-30	High	6%	5%	9%	15%	19%
24-26	Medium	5	8	16	12	30
22-23		5	9	7	21	26
19-21		11	13	18	13	11
16-18	Low	21	10	25	19	7
14-15		16	17	12	10	7
7-13		36	38	13	10	-
Total = 100%		(168)	(109)	(56)	(52)	(27)

Sampling Methods

The sampling methods were designed to meet several objectives. First, the sample was to include approximately 100 of the 412 liberal arts institutions in the school population. Second, approximately 6,000 male liberal arts graduates of these schools were to be drawn for each of the three years selected. Third, the sample of graduates for the middle year (1952-53) was to be representative of all graduates in the student population of that year. Fourth, the samples for the remaining two years were to be drawn for comparability with this middle year, each containing approximately the same numbers of graduates from the same 100 institutions.

The initial sampling ratios were intentionally set higher than required, aimed at securing 105 schools and approximately 7,400 graduates in each year. This was done to allow flexibility in drawing the final sample in accordance with the last objective, and in anticipation that some schools might refuse to cooperate and that some graduates might prove unreachable because of a lack of current addresses.

The 412 institutions in the population were first divided into two main groups, those with more than 100 liberal arts graduates in 1952-53 as reported in Earned Degrees Conferred and those with 100 or less. Both the large and the small schools were then stratified by their control (public, private, and Catholic) and by their quality scores. The divisions by strata are described in Technical Note 2 in Appendix A.

Sampling within strata proceeded differently for the small and large schools. The small institutions were chosen by simple random sampling with equal probability per school until the desired number of graduates was reached. All graduates of the chosen schools in each of the three years were then included in the preliminary sample.

The large schools were drawn by systematic random sampling with probability proportionate to their numbers of liberal arts graduates in 1952-53. Then approximately equal numbers of their graduates in each year were selected from each school, 68 from each Roman Catholic institution and 75 from the others. When the procedure designated the same institution twice, a double sample of its graduates was taken in each year. This method of sampling insured that all schools with large numbers of liberal arts graduates were included while the representativeness of the sample was maintained.

Of the 105 colleges and universities selected by the foregoing methods, 98 agreed to participate. Of the seven which declined, two did so early enough that a randomly chosen alternate from the same stratum could be drawn and contacted. Only one of these two alternates agreed to participate at this late date, bringing the total to 99 institutions. One additional college, a Roman Catholic institution, was initially invited as a replacement for a school which later agreed to participate in the study. While the alternate might then have been dropped, preliminary returns indicated that a somewhat smaller response rate might be expected from the graduates of Catholic institutions. Final returns proved this to be true. The alternate, therefore, was retained in the sample to bolster the number of graduates of Catholic institutions, thus bringing the final total to 100 institutions.

Administrative details of the selection of alumni from the cooperating colleges and universities varied but generally took one of two courses. Either information was requested for all liberal arts graduates of the three selected years of a list of such graduates was first requested, a systematic random sample of the required size drawn from this list, and the same information requested for those sampled.

Five pieces of information were requested for each graduate: (1) his name; (2) his last known address; (3) his undergraduate major or majors; (4) his undergraduate cumulative grade point average, and (5) his overall percentile score on the American Council on Education Psychological Examination or the Ohio State Psychological Examination. Majors were carefully reviewed to determine eligibility for inclusion in the study, and an attempt was made to eliminate foreign students no longer living in the United States by excluding alumni with both a foreign address and a name identifiable with the country in which they resided. Scores on the two psychological tests were available on so few graduates (12 percent) that no use was made of them in the study.

As expected, some losses were incurred at this point through the absence of current addresses. Among the oversample of 29,582 names provided by the schools, 4.3 percent were lost for this reason. This ranged from 5.1 percent of the 1948 graduates to 3.2 percent of those of 1958. Wherever possible, graduates with known addresses were used as replacements, but for some small colleges, where all alumni were to be included in the sample, this was not possible.

As previously noted, the initial sample was overdrawn to anticipate such losses and to provide flexibility in selecting the final sample of 18,000 graduates in accordance with the study's objectives. Reductions in the sample size were accomplished by randomly eliminating cases within selected strata and years to increase the proportionality of each year's sample with the population of the central year, 1952-53. For the large schools, these adjustments were made by modifying the constant number of graduates sampled per school per year. For the small schools, they involved taking standard proportions of the available cases in each year and strata to achieve the desired numbers. For some strata, the ideal numbers were not obtainable with the numbers available. Additional cases then were generally drawn from adjacent strata. The size and nature of these departures from the ideal sample sizes may be judged by examining the first and second tables of Technical Note 2 in Appendix A.

Field Operations

In mid-November of 1963, a questionnaire (see Appendix C) and a covering letter were mailed to each of the 18,004 persons in the final sample. A prepaid envelope was enclosed. Second and third mailings included a fresh copy of the questionnaire followed in January and March of 1964 to those who had not responded to earlier waves.

Two special steps were taken to reach alumni whose addresses were no longer current. First, all questionnaires were sent by return requested mail. More than 3,000 address corrections were obtained in this manner and the questionnaires remailed to the new addresses. Second, when a questionnaire was returned without a forwarding address, the school was recontacted to learn if a more recent address, or the address of the graduate's parents, was available. An additional 1,250 remailings followed from these procedures.

Returns were accepted through June 18, 1964, when 10,877 completed and usable questionnaires had been received. The overall, crude return rate was 60.4 percent of the 18,004 mailed. Based on evidence described in Technical Note 3 of Appendix A, it is estimated that of the eligible subjects who received a copy of the questionnaire, 70.2 percent replied.

The Completed Sample

A detailed evaluation of the final sample of completed questionnaires is presented in Technical Note 4 of Appendix A. Here we will merely summarize its conclusions.

First, two of the major sampling aims appear to have been achieved in the completed sample. The individual samples for the three selected years are found to be closely comparable to one another, at least in their distributions by type of control, school size, and academic quality. In addition, these three samples also are found in at least general correspondence with the 1953 population on these same characteristics, as was the intention. Graduates of public institutions and of schools with less than 1,000 students are slightly underrepresented, but these discrepancies are not of sufficient size to greatly affect tables presented in this report.

Second, when a follow-up study was undertaken with a sample of non-respondents to the main questionnaire, those who were reached proved to be remarkably similar to the respondents on a wide range of characteristics including undergraduate major, undergraduate grades, occupational satisfaction, income, and attitudes towards liberal arts education. The non-respondents were, however, disproportionately employed in the private non-manufacturing sector of the economy, typically in such professions as law, medicine, dentistry, and fiscal management. Apparently, the survey was somewhat less successful in reaching such professionals than those employed in the public or private manufacturing sectors of the economy. Large numbers in these occupations, however, did respond and are included in the tables which follow.

Third, it should be pointed out that one potential and essentially unassessable bias in the reported tables still remains. This derives from the inability of the survey to locate approximately one-tenth of the total sample from the addresses provided by the cooperating institutions. Since they appear to have ceased contact with their alma maters and to have moved repeatedly since their last known address, it seems unlikely that any effort short of a census would succeed in locating a substantial number of them. Whether they differ appreciably from those who could be located must remain unknown.

Methods of Presentation

In the chapters which follow, several measures have been taken to avoid overwhelming the reader with a plethora of detail. Several major classifications have been defined in this chapter, for example, so that they need not be explained in succeeding use. Full definition of all main classification categories appear in Appendix D where the interested reader may consult them if he desires.

Numbers of graduates in each category have been eliminated from the tables to reduce their detail. The standard numbers of graduates in each category appear in Appendix D. Variations between total number of graduates responding to individual items were statistically insignificant.

In selecting tables and cross-classifications for presentation, a general policy was followed of including only those containing a difference of at least 5 to 10 percentage points except when the information, even if a full finding, appeared to have intrinsic interest or to contradict a commonly held belief. This policy explains apparent inconsistencies in variables studied in related sequences of tables.

Finally, two definitional points should be stressed as important to a general understanding of many of the tables. First, all characteristics of the colleges, such as size and quality, describe them as they were in 1952-53, the middle of the three years selected for study. Second, all references to colleges and universities, except where specifically noted to the contrary, are to the single undergraduate institution from which the alumnus received his bachelor's degree.

PART II: THEIR EDUCATION

Before studying the careers of the liberal arts alumni, it is important first to examine their academic preparation.

Chapter 3 reviews their education. In what fields did liberal arts alumni major, and what were the trends? From what kinds of institutions did they graduate? How much contact with faculty members was reported? How much help did alumni seek or receive from their fellow students? How much time was spent discussing intellectual interests with classmates? How hard did liberal arts students work, and were they concerned about their academic success? How actively did they participate in extra-curricular activities? How many, and which, students went on to graduate school?

Alumni appraisal of liberal arts education is presented in Chapter 4. Were the graduates' courses challenging and interesting? Which courses did they consider the best taught, the most difficult, the most enjoyable, and the most useful in a career? Were alumni satisfied with their college major? If not, what field would they now elect? Did their education teach them to express ideas clearly? Did they feel that faculty members were really interested in their students? Looking back did they put too much time and emphasis on extra-curricular activities? Would the alumni attend the same college again? Would they recommend a liberal arts education to a high school graduate of today? Finally, did those who took graduate training consider it to be valuable?

Chapter 3: The Education of Liberal Arts Graduates

As three quarters of all our colleges and universities award degrees in liberal arts fields, a review of the education of liberal arts alumni moves us quickly into the heart of American higher education. As represented by the graduates included in our sample, this chapter describes the educational background of today's liberal arts alumni. It discusses in turn their undergraduate institution, college major, graduate study, factors related to academic work, influence of extra-curricular activities and sources of financial support.

Type of College Attended

Contrary to the myth that most liberal arts alumni come from small campuses, almost equal numbers graduated from institutions with enrollments over 5,000 as did from those with enrollments under 5,000 (Table 3-1).

TABLE 3-1

Types of College Attended by Year of Graduation

	All Graduates	Year of Graduation 1948	1953	1958
Size of College				
Under 1,000 students	12.8%	12.4%	12.9%	12.9%
1,000-2,499	22.2	23.2	21.6	21.8
2,500-4,999	16.3	15.3	17.1	16.5
5,000-9,999	22.7	22.8	22.5	22.7
10,000-13,999	8.0	8.5	8.4	8.0
14,000 and over	17.1	17.8	17.5	18.0
Total =	100.0%	100.0%	100.0%	100.0%
Control				
Roman Catholic	11.2%	1.03%	11.8%	11.7%
Public	36.8	36.2	36.2	38.2
Private	52.0	53.5	52.1	50.1
Total =	100.0%	100.0%	100.0%	100.0%
Quality				
High	21.2%	21.2%	21.5%	20.9%
Medium	45.4	44.5	45.4	46.2
Low	33.4	34.3	33.1	32.9
Total =	100.0%	100.0%	100.0%	100.0%

Thirty-five percent received their degrees from relatively small institutions with total enrollments under 2,500, 39 percent graduated from medium-sized institutions with enrollments from 2,500 to 9,999, and 26 percent from larger institutions. Since the sample for each of the three classes was drawn for comparability with the 1953 population, no trends, of course, are apparent. Eleven percent were graduates of Catholic schools, 37 percent of public institutions, and 52 percent of private colleges and universities. Among the private college graduates, 17 percent attended church-related institutions. Since the cutting points on the quality index were largely arbitrary, the proportions receiving their degrees from "high," "medium," and "low" quality schools have little meaning in themselves and are included only for the sake of completeness.

Relationships between size and quality and control and quality were shown for the entire population of schools in Chapter 2. Table 3-2 presents

TABLE 3-2

Quality of College Attended by Size and Control

	Quality of College			
	High	Medium	Low	Total
All Graduates	21.2%	45.4	33.4	100.0%
Size of College				
Under 1,000	10.9%	14.5	74.6	100.0%
1,000-2,499	11.1%	53.4	35.5	100.0%
2,500-4,999	30.8%	43.0	26.2	100.0%
5,000-9,999	24.8%	37.4	37.8	100.0%
10,000-13,999	-	100.0	-	100.0%
14,000 and over	37.0%	44.2	18.8	100.0%
Control of College				
Roman Catholic	-	20.7	79.3	100.0%
Public	18.5%	62.1	19.4	100.0%
Private	27.7%	38.9	33.4	100.0%

the same data for the sample of graduates and reemphasizes the point that size and quality are interrelated characteristics, as are control and quality. As a consequence, when any of these three variables is considered singly, it must be recognized that its effects are likely to be intermixed with those of the other two.

Undergraduate Major

While the percentage of alumni electing individual undergraduate majors varied sharply according to year of graduation (Table 3-3), the distribution of majors remained remarkably constant among broad categories of science and

TABLE 3-3

Undergraduate Majors by Year of Graduation

Major	All Graduates	1948	1953	198
		Year of Graduation		
Chemistry	8.1%	9.8%	7.9%	67%
Other Physical Sciences	6.6	5.3	6.1	83
Biological Sciences	13.4	15.0	13.1	121
Mathematics	5.2	4.7	5.1	57
Sub-Total: Science and Math	34.9%	32.2%	32.8%	33.3%
Economics	13.8	16.8	12.7	120
Other Social Sciences	33.4	30.1	34.1	359
Sub-Total: Social Sciences	46.9	46.9	47.9	47.2
English and Speech	11.7%	10.8%	12.7%	116%
Foreign Languages	1.9	1.8	1.7	22
Philosophy and Religion	3.7	3.6	4.0	36
Fine and Applied Arts	2.0	1.8	2.4	19
Sub-Total: Humanities	18.1	20.9	19.2	19.3
No Answer	0.2	--	0.1	0.
Totals	100.0%	100.0%	100.0%	100.0%

mathematics, social sciences, and humanities. (For a description of the components of these categories, see Appendix D.) The greatest fluctuation occurred within the social sciences, where economics majors declined from 16.8 percent to 12.0 per cent while majors in the remaining social sciences rose from 30.1 to 35.9 percent. Despite several decades of concern about our national dependence upon science and technology, during the period the percentage of students electing majors in science and mathematics actually declined.

Type of college or university attended has a marked relationship to college major. Graduates of Roman Catholic colleges (Table 3-4) are more likely to have studied one of the humanities, particularly English or philosophy. A significantly higher percentage of public school graduates majored in science (both physical and biological). Almost half of all private college alumni majored in a social science. Double majors were reported by 7.5 percent of the graduates. Where double majors were reported, the field of greatest concentration was used for analyses dealing with college major. When this was not designated, the first listed field was taken. Surprisingly, science and mathematics graduates were more likely to come from low quality institutions (Table 3-5). Attributes of social science majors offer interesting

TABLE 3-4

Undergraduate Major by Control of College

Major	All Graduates	Roman Catholic	Public	Private
	Control of College			
Chemistry	8.1%	8.7%	8.0%	8.1%
Other Physical Sciences	6.6	4.7	9.5	4.9
Biological Sciences	13.4	11.4	15.8	12.1
Mathematics	5.2	5.5	5.7	4.7
Sub-Total: Science and Math	30.3%	39.0%	29.8%	33.3%
Economics	13.8	17.7	10.0	15.6
Other Social Sciencds	33.4	25.7	34.8	34.1
Sub-Total: Social Sciences	47.2	43.4	44.8	49.7
English and Speech	11.7	14.6	10.0	12.3
Foreign Languages	1.9	2.4	1.9	1.9
Philosophy and Religion	3.7	8.2	1.6	4.3
Fine and Applied Arts	2.0	0.9	2.6	1.9
Sub-Total: Humanities	19.3	26.1	16.1	19.3
No Answer	0.2	0.1	0.1	0.2
Total	100.0%	100.0%	100.0%	100.0%

TABLE 3-5

Type of Major by Quality and Size of College and Academic Record

	Science and Mathematics	Humanities	Social Sciences	No Answer	Total
All Graduates	33.3%	19.3	47.2	0.2	100.0%
Quality of College					
High	26.3%	20.5	53.2	--	100.0%
Medium	36.4%	17.4	46.1	0.1	100.0%
Low	33.4%	21.3	45.1	0.2	100.0%
Size of College					
Small	32.1%	18.2	49.6	0.1	100.0%
Medium	33.0%	21.6	45.3	0.1	100.0%
Large	37.2%	18.0	44.7	0.1	100.0%
Academic Record					
High	40.6%	34.3	25.1	--	100.0%
Average	35.3%	19.6	45.1	--	100.0%
Low	31.8%	15.4	52.7	0.1	100.0%

contrasts: alumni from high-quality colleges were more likely to elect a social science major, but for all types of institutions the poorest students were the most likely to major in the social sciences. The percentages majoring in both the humanities and science and mathematics increase with academic records. It should be noted here that data in this study are based on grade point averages provided by the institution, where available, rather than those recalled by the graduates.

Students often are not required formally to declare a major until the end of their sophomore year, so that all changes of major, official and unofficial, may not have been considered when alumni were asked this information. Yet, 38 percent of the graduates reported a change of major (Table 3-6).

TABLE 3-6

Changes in Major During College

Made no change in major		62.1%
Changed from these liberal arts majors:		
Chemistry	3.3%	
Other Physical Science.	1.8	
Biological Science	7.5	
Mathematics	1.3	
		13.9
Economics	1.0	
Social Science	4.1	
		5.1
English and Speech	2.5	
Foreign Languages	0.4	
Philosophy and Religion	0.9	
Fine and applied arts	0.9	
		4.7
Changed from these non-liberal arts majors:		
Business administration	3.4	
Education	1.6	
Engineering	7.4	
Architecture	0.2	
Accounting	0.7	
Other fields	0.9	
		14.2
Total		100.0%

Most shifts were within the liberal arts curriculum, particularly away from original science subjects. For students changing from outside the liberal arts college, the greatest movement was away from engineering. While the data are not shown, the results show little deviation by year of graduation, or by control, quality, and size of college.

Graduate Study

One goal of liberal education has been to provide a sound foundation for graduate study. Half of the alumni in the survey hold a graduate degree (Table 3-7). Another sixth took some graduate work; only a third of the alumni stopped at the baccalaureate. Many, as will be shown later, anticipate receiving an additional degree in the future. While older alumni report the highest rate of advanced education, it should be noted that some in the younger classes have not yet finished their graduate education.

TABLE 3-7

Highest Level of Education Completed by Year of Gradation

Highest Level of Education Completed	All Graduates	Year of Graduatin 1948	153	1958
Bachelor's	31.6%	31.5%	3.0%	33.4%
Some graduate work (no degree)	15.7	12.3	1.1	20.4
Master's	21.6	22.5	2.8	20.5
Bachelor of Divinity	3.8	3.7	.4	3.3
LLB	8.2	7.9	.3	7.3
MD, DDS, Etc.	9.4	8.4	[illegible]	9.2
PhD, EdD, Dsc, etc.	7.1	10.5	7.4	3.5
Other	1.3	1.0	1.4	1.4
No Answer	1.3	2.2	1.0	1.0
Total	100.0%	100.0%	100.0%	100.0%

As expected, the greatest incidence of graduate study was reported by students with the highest undergraduate academic records (Table 3-8). Unexpected, however, was the fact that quality of college attended had relatively little relationship to advanced education. Almost as many graduates of the weakest colleges went on for post-graduate training than did men from the high-quality schools. Social science majors were the most likely to report a bachelor's degree as their highest, and majors in science and mathematics were the most likely to earn doctorates. While it is not shown, graduates of high-quality schools are more likely to have gone on to study law and medicine. (Table 3-8 is on page 28.)

TABLE 3-8

Highest Degree Held by Academic Record, Quality of College, and Type of Major

	Highest Degree Held				
	Bachelor's	Master's or Professional	Doctor's	No Answer	Total
All Graduates	48.6%	43.0	7.1	1.3	100.0%
Academic Record					
High	23.5%	55.9	19.6	1.0	100.0%
Average	42.3%	48.7	7.7	1.3	100.0%
Low	67.1%	30.0	1.6	1.3	100.0%
Quality of College					
High	45.8%	45.1	8.0	1.1	100.0%
Medium	48.9%	42.2	7.4	1.5	100.0%
Low	49.8%	42.8	6.0	1.4	100.0%
Type of Major					
Science/Math	41.4%	45.6	11.5	1.5	100.0%
Social Sciences	53.4%	40.6	4.6	1.4	100.0%
Humanities	49.0%	44.4	5.4	1.2	100.0%

Among fields of graduate study selected by the alumni, the most popular were law, education, and medicine (Table 3-9).

TABLE 3-9

Fields of Graduate Study

No Graduate Training		31.6%
Graduate Field		
Law	10.0%	
Education	8.1	
Medicine	8.1	
Social Sciences other than Economics	7.9	
Philosophy and Religion	5.2	
Business Administration	4.2	
English	3.6	
Physical Sciences other than Chemistry	3.6	
Chemistry	3.0	
Biological Sciences	2.3	
Mathematics	2.1	
Dentistry	1.6	
Economics	1.3	
Engineering	1.1	
Fine and Applied Arts	1.0	
Social Work	1.0	
Foreign Languages	0.9	
Accounting	0.5	
Architecture	0.3	
Pharmacy	0.3	
Other Fields	0.8	
Sub-Total		66.9
No Answer		1.5
Total		100.0%

Looking toward the future, 21 percent of the graduates in our study say they will (and another 18 percent say they may) receive yet another degree in the next few years (Table 3-10). More than half of the men who finished five years earlier say they may receive another degree, and a quarter of the 15-year alumni say they may receive one. The field of study proposed most often is education.

TABLE 3-10

Additional Degrees Anticipated by Year of Graduation

Plans for Additional Degrees:	All Graduates	Year of Graduation 1948	1953	1958
Yes	20.8%	10.2%	17.3%	34.5%
Maybe	18.2	12.8	19.0	22.6
No	60.5	76.5	63.3	42.4
No Answer	0.5	0.5	0.4	0.5
Total	100.0%	100.0%	100.0%	100.0%

Factors Related to Academic Work

The graduates were mobile over their total undergraduate and graduate years, less than a third having attended only one institution (Table 3-11).

TABLE 3-11

Number of Different Institutions Attended by Quality and Size of College

	Number of Institutions							
	One	Two	Three	Four	Five	Six	No. Ans.	Total
All Graduates	31.3%	41.1	19.3	6.0	1.6	0.3	0.4	100.0%
Quality of College								
High	33.9%	42.9	16.1	5.2	1.3	0.3	0.3	100.0%
Medium	31.6%	40.2	20.0	6.1	1.4	0.3	0.4	100.0%
Low	29.3%	41.3	20.2	6.3	2.1	0.3	0.5	100.0%
Size of College								
Small	26.9%	43.3	21.2	6.1	1.7	0.3	0.5	100.0%
Medium	32.6%	40.7	18.5	5.8	1.8	0.3	0.2	100.0%
Large	35.4%	38.9	17.7	6.0	1.4	0.4	0.2	100.0%

Graduates of high-quality schools and larger institutions were somewhat less mobile.

When the data are limited to undergraduate studies, however, mobility drops sharply. Three-fourths of all alumni attended only one undergraduate college, and less than 6 percent attended more than two (Table 3-12). The graduates of 15 years ago were significantly more mobile than the other two classes, undoubtedly reflecting educational programs interrupted by military duty or attendance at a college during military service. Students with high academic records were somewhat less mobile than those with low records.

TABLE 3-12

Number of Undergraduate Colleges Attended by Year of Graduation and Academic Record

	Number of Undergraduate Colleges Attended				
	One	Two	Three or more	No Answer	Total
All Graduates	75.0%	18.6	5.6	0.8	100.0%
Year of Graduation					
1948	58.4%	23.8	15.5	2.3	100.0%
1953	75.0%	18.6	5.6	0.8	100.0%
1958	75.1%	18.1	5.8	1.0	100.0%
Academic Record					
High	76.3%	15.0	7.5	1.2	100.0%
Average	67.6%	21.1	9.8	1.5	100.0%
Low	68.1%	22.0	8.5	1.4	100.0%

How seriously did these alumni, as undergraduates, take their education? Three-quarters said that they were "deeply" or "quite a bit" concerned about how well they were doing academically (Table 3-13). Less than two percent were "not at all concerned." Students with high academic records were markedly more concerned about their academic performance than were those with lower academic records. Science and mathematics majors reported somewhat more concern about their academic performance than did social sciences or humanities majors. While not shown, size of college, type of control, and quality of the institution seem to have made little difference in attitude toward academic success.

Among the best students, 76 percent felt they worked harder than their classmates (Table 3-14). In contrast only 23 percent of the poorest students felt they worked harder than the others. While not shown, there are no particular differences in impressions of hard work between older and younger alumni, between those from large and small schools, or between graduates of institutions of high and low quality. Graduates in humanities and science and mathematics recall working somewhat harder than did those in the social sciences.

TABLE 3-13

Concern About Grades by Academic Record and Type of Major

"To what extent were you concerned about how well you were doing academically?"

	Deeply Concerned	Quite a Bit	Little	Not at All	No Answer	Total
All Graduates	24.4%	54.1	19.5	1.5	0.5	100.0%
Academic Record						
High	52.5%	38.4	7.4	1.6	0.1	100.0%
Average	23.7%	58.9	15.3	1.5	0.6	100.0%
Low	16.2%	51.2	30.9	1.1	0.6	100.0%
Type of Major						
Science and Math.	28.8%	53.4	16.0	1.4	0.4	100.0%
Social Sciences	21.5%	55.1	21.3	1.5	0.6	100.0%
Humanities	23.8%	52.9	21.3	1.6	0.4	100.0%

TABLE 3-14

How Hard Alumni Worked on Studies by Academic Record and Type of Major

"Compared to other students in your class in college, how hard would you say you worked on your studies?"

	Considerably Harder than Average	Somewhat Harder	Same	Somewhat Less than Average	Considerably Less	No Answer	Total
All Graduates	9.8%	32.8	35.0	16.6	5.4	0.4	100.0%
Academic Record							
High	28.2%	48.2	15.5	6.0	2.0	0.1	100.0%
Average	9.5%	37.7	34.3	14.3	3.9	0.3	100.0%
Low	4.9%	19.1	42.8	24.4	8.4	0.4	100.0%
Type of Major							
Science and Math	10.7%	36.8	34.0	14.0	4.3	0.2	100.0%
Social Science	8.6%	30.6	36.1	18.1	6.2	0.4	100.0%
Humanities	11.2%	31.5	34.0	17.5	5.6	0.2	100.0%

An analysis of contact with faculty members shows that, while the overwhelming majority (71 percent) of the graduates had "some contact with faculty, fewer (24 percent) would describe it as a "great deal" (Table 3-15). As expected, graduates of smaller institutions report more contact with professors with the percentages reporting "a great deal of contact" with faculty members:

TABLE 3-15

Contact with Faculty Members by Academic Record, Size and Quality of College

"How much personal contact did you have with faculty members?"

	A Great Deal	Some	Very Little	None	No Answer	Total
All Graduates	23.7%	47.1	24.8	4.1	0.3	100.0%
Academic Record						
High	38.7%	45.3	14.3	1.5	0.2	100.0%
Average	26.3%	47.7	22.4	3.5	0.1	100.0%
Low	18.0%	47.6	29.1	5.1	0.2	100.0%
Size of College						
Small	36.8%	47.8	14.2	1.0	0.2	100.0%
Medium	19.2%	49.0	27.2	4.3	0.5	100.0%
Large	13.0%	43.4	35.2	8.1	0.2	100.0%
Quality of College						
High	17.0%	46.9	30.3	5.6	0.2	100.0%
Medium	22.8%	46.2	26.0	4.7	0.2	100.0%
Low	29.2%	48.5	19.6	2.4	0.3	100.0%

13 percent of graduates of large institutions
19 percent of graduates of medium-sized institutions
37 percent of graduates of small institutions

Although not shown, very little variation was reported by year of graduation, contradicting the common contention that students and faculty members have had increasingly less contact with each other in recent years.

The influence of fellow students is seldom assessed. Certainly, stimu-ation from other students enriches education and encourages deeper thinking. able 3-16 shows the extent to which alumni recall participating in intellectual discussions with their fellow students and indicates that more than half spent "a lot of time" discussing issues with their classmates. This was particularly true of the better students, of those who majored in the humanities, and of those from high-quality colleges. While not shown, there were only slight variations by year of graduation and by size and control of college attended.

TABLE 3-16

Extent of Intellectual Discussions During College by Academic Record, Type of Major, and Quality of College

To what extent do you agree or disagree "I spent a lot of time discussing intellectual issues with my classmates?"

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	15.7%	43.6	36.3	4.0	0.4	100.0%
Academic Record						
High	18.6%	47.4	31.2	2.5	0.1	100.0%
Average	16.2%	44.2	35.4	3.8	0.4	100.0%
Low	12.4%	41.6	40.8	4.8	0.4	100.0%
Type of Major						
Science and Math	10.8%	40.7	43.8	4.5	0.2	100.0%
Social Sciences	16.0%	44.7	34.8	4.0	0.5	100.0%
Humanities	23.5%	46.1	26.9	3.2	0.2	100.0%
Quality of College						
High	19.6%	45.5	30.8	3.8	0.3	100.0%
Medium	15.0%	42.1	38.2	4.4	0.3	100.0%
Low	14.3%	44.4	37.2	3.7	0.4	100.0%

The alumni also were asked the extent to which they gave academic assistance to their classmates and received help from them (Table 3-17). (Table 3-17 is on page 35)

While nearly half the graduates could recall providing help, only a quarter remembered asking for assistance. The best students recalled providing the most assistance, and the poorer students recalled receiving the most aid from classmates.

TABLE 3-17

Assistance Given or Received from Fellow Students

To what extent do you agree or disagree...

	"my classmates often asked me for help in their studies."		"I often asked my classmates for help with my studies."	
	Strongly Agree	Agree	Strongly Agree	Agree
All Graduates	5%	43	1%	22
Academic Record				
High	13%	54	1%	13
Average	5%	47	1%	21
Low	2%	34	1%	28

Our study also explored the extent to which alumni participated in senior seminars or advanced Reserve Officer's Training Corps, received academic honors or membership in Phi Beta Kappa, or wrote a thesis in their major field. These responses were reported:

43% took a senior seminar course
25% wrote a thesis in their major field
12% completed an advanced ROTC course
5% received membership in Phi Beta Kappa
17% received academic honors

As might be expected, those who completed advanced ROTC were much more likely to have graduated from a large university. Recent graduates were more likely to have participated in a senior seminar than were earlier graduates; the figures show 49 percent for graduates of five years ago and only 36 percent for graduates of 15 years ago. Graduates from high-quality institutions were considerably more likely to have participated in senior seminars than were those from poorer institutions (52 percent vs. 37 percent), and to have completed a thesis in their major field (32 percent vs. 22 percent).

Financial Support During College

Today, financial assistance is regarded as a key to expanded educational opportunity. For this reason, it is interesting to note that 90 percent of the alumni earned at least some of their college expenses (Table 3-18). Alumni

TABLE 3-18

Extent of Self-Support in College by Year of Graduation, and Quality of College

"What portion of your total expenses at college did you earn yourself?"

	None	1-24%	25-50%	51-75%	76-100%	No Answer	Total
All Graduates	9.3%	36.9	21.4	14.8	17.1	0.5	100.0%
Year of Graduation							
1948	11.6 %	40.6	20.3	13.1	14.3	0.3	100.0%
1953	9.4 %	37.3	21.6	14.6	16.9	0.2	100.0%
1958	7.6 %	33.5	22.3	16.3	19.9	0.4	100.0%
Quality of College							
High	14.7 %	45.8	18.5	9.1	11.4	0.5	100.0%
Medium	9.2 %	38.2	21.7	13.4	15.0	0.5	100.0%
Low	6.5 %	29.4	22.8	17.5	23.4	0.4	100.0%

---

who finished 15 years ago reported the least amount of self-support. It should be noted that almost 80 percent of them benefitted from the G.I. Bill of Rights and may not have included this support in their earnings. The questionnaire erred in not making clear whether G.I. Bill income was to be classed as "earnings." Graduates of high-quality colleges were less likely to have been self-supporting than were alumni from low-quality schools.

While not shown, the highest self-support was reported by men who attended public institutions and those who studied either social sciences or humanities as their major subject.

A wide variety of sources helped finance college education (Table 3-19 ,page 37). The contribution of parents to educational expenses is much less than anticipated. It seems difficult, however, to accept the premise that only a quarter of the graduates received any financial help from their parents. Perhaps support from family was assumed and many alumni checked the remaining special sources.

The most frequently cited source of financial assistance was self-support, both part-time employment and summer earnings. In addition, almost half (80 percent of the class which graduated 15 years ago and 23 percent of the class of five years ago) utilized the G.I. Bill of Rights to help finance education. These graduates were among the 2,000,000 veterans who took advantage of the educational provisions of this bill.

TABLE 3-19

Sources of Financial Support During College by Year of Graduation and Academic Record

"Which of the following contributed to your expenses while you were in college? (Check all that apply)"

	Scholarships	GI Bill	Summer Employment	Part-time Emp.	Loans	Parents Funds	Wife's Earnings	Employer Paid	Saving	Full Time Employment
All Graduates	29.2%	42.5	67.3	64.8	10.3	27.5	2.2	1.4	3.6	2.7
Year of Graduation										
1948	24.8%	79.5	51.4	63.8	6.4	18.1	2.6	2.9	4.7	2.3
1953	29.6%	26.7	73.5	66.1	10.0	31.2	2.1	0.7	3.2	2.5
1958	33.1%	22.6	76.4	64.4	14.4	32.8	1.9	0.8	3.0	3.2
Academic Record										
High	54.1%	38.6	70.3	63.4	7.4	30.3	2.8	1.6	4.8	1.5
Average	30.7%	41.7	68.5	65.7	10.4	26.6	2.7	1.3	3.6	2.7
Low	20.5%	42.8	66.0	64.2	10.4	28.4	1.4	1.5	2.9	2.6

Note: As alumni checked all applicable sources, totals add up to over 100.0%.

Trends in the sources of financial assistance show an increasing reliance on scholarships, summer employment, loans, and support from parents, and less upon the G.I. Bill.

Extra-Curricular Activities

Despite the fact that many of our alumni were quite literally descended from the highly-publicized, racoon-coat "College Life" students of the 1920's the graduates of the 40's and 50's displayed a moderated attitude toward extra-curricular activities. Among the typical activities offered on most campuses, intramural sports were the most popular among our alumni, with almost 60 percent of them reporting some degree of intramural sports participation (Table 3-20). More than half of the alumni took some part in social fraternities, and slightly less than half participated in departmental clubs.

TABLE 3-20

Extent of Participation in Selected Extra-Curricular Activities

"How would you classify your participation in each of the following extra-curricular activities?"

	None	Some	Active, but no major office	Active and held major office	No Answer	Total
Social Fraternity	46.1%	12.7	15.5	22.2	3.5	100.0%
Editorial staff of student publication	69.8%	7.9	3.2	7.3	11.8	100.0%
Student government	61.0%	13.6	5.1	9.4	10.9	100.0%
Dramatics or debating	66.8%	10.9	5.1	4.7	12.5	100.0%
Choral, orchestra or band	66.2%	7.8	10.1	4.1	11.8	100.0%
Departmental clubs	43.4%	24.0	11.6	10.6	10.4	100.0%
Political clubs or organizations	65.0%	13.2	5.2	4.2	12.4	100.0%
Religious clubs or organizations	53.7%	18.7	8.7	7.7	11.2	100.0%
Intramural sports	36.2%	26.8	21.9	9.4	5.7	100.0%

Despite highly publicized exceptions and the classical Greek theory which links mental and physical prowess, our survey showed that varsity athletes were more likely to come from among the poorer students. Three-quarters of all students, however, took no part in varsity athletics.

An analysis of type of residence during college shows that approximately half of the graduates lived with other students in a school dormitory, a boarding house, or a fraternity. Another sixth lived in a room or apartment, perhaps with other students; and the final third lived with their parents or in their own residence (Table 3-21). Small institutions were much more likely to provide dormitory quarters than were large institutions. While not shown, twice as many graduates of private colleges (34 percent) lived in school dormitories as alumni of public institutions (15 percent). Sharp variations in number living in fraternities characterized different types of control: Roman Catholic (1 percent), public (15 percent), and private (18 percent). Over half (52 percent) of those who attended Catholic colleges lived in their parents' home, in contrast to 27 percent of the public and 23 percent of the private school alumni. (Table 3-21 is on page 39)

Graduates of smaller institutions report much greater involvement in extra-curricular activities and in student housing.

TABLE 3-21

Type of Residence During College by Quality and Size of College and Academic Record

"As an undergraduate student where did you live for the longest period of time while in college?"

	School Dorm.	Boarding House	Frat- ernity	Parent's Home	Room or Apt.	Coop	Vet's Housing	Own Home	No Answer	Total
All Graduates	26.5%	5.1	15.1	28.1	15.7	0.7	3.5	3.0	2.1	100.0%
Quality of College										
High	41.8%	5.5	19.3	13.3	13.6	0.1	2.6	1.6	2.1	100.0%
Medium	22.4%	5.2	20.9	25.4	16.0	0.9	4.3	2.8	2.2	100.0%
Low	22.1%	4.8	4.3	43.1	15.3	0.5	3.7	4.2	2.2	100.0%
Size of College										
Small	33.5%	4.0	19.2	19.9	13.2	0.2	3.4	2.8	2.1	100.0%
Medium	31.0%	3.9	13.6	26.2	13.3	0.8	3.3	3.4	3.3	100.0%
Large	9.9%	6.8	11.5	43.2	20.0	1.2	2.5	2.8	2.1	100.0%

Percent who:	Size of college attended Large	Size of college attended Small
Held major student government office	7.1	13.2
Earned varsity athletic letter	7.5	20.9
Lived in student housing	28.2	56.8

Summary

More than half of the liberal arts graduates in our sample attended private colleges and universities, while 11 percent were enrolled in Roman Catholic schools and 37 percent in public institutions. A somewhat larger proportion of the alumni attended small institutions under 2500--than attended large institutions--those with enrollments over 10,000. Three-fourths of the alumni attended only one school during their undergraduate studies. Mobility climbed sharply when graduate training was included in the data, however, with only one-third of the alumni remaining in the same school for their entire undergraduate and graduate training.

Almost half of the graduates majored in a social science (47 percent). Significantly fewer majored in sciences and mathematics (33 percent) or humanities (19 percent). Distribution among these general fields remained almost constant over the period spanned by the three graduating classes studied, but there were some shifts within fields--majors in economics, for example, declined while majors in other social sciences increased markedly. The percentage of alumni majoring in science and mathematics actually declined during the period under study. Social science majors were more likely to have been the weakest students. Roman Catholic schools produced a higher proportion of humanities majors, while public schools produced a bigger share of science and mathematics majors. During college, more than a third of the alumni changed their majors, 24 percent from another liberal arts field (primarily away from science subjects) and 14 percent from a non-liberal arts field (chiefly from engineering or business administration).

Graduate training was almost the norm. Two-thirds took at least some graduate work, 22 percent received master's degrees, and 28 percent received the doctorate or advanced professional degrees. Their education is not complete: eight percent of the alumni still are students and 21 percent of them expect to receive an additional degree. Doctoral recipients were more likely to have been among the top students academically and to have majored in sciences and mathematics. Quality of college attended, surprisingly, had little effect on the likelihood of graduate training.

As students, three-quarters of the alumni said they were "deeply" or "quite a bit" concerned about how well they were doing academically. The majority (71 percent) reported some contact with faculty members, with twice as much contact reported in the smaller colleges. Less than a quarter of the students, however, recalled "a great deal" of contact with faculty members. More than half reported spending "a lot of time" in intellectual discussions with their classmates. Half of the alumni said they often gave academic help to fellow students, and a quarter said they asked their classmates for help with their studies.

Chapter 4: How Liberal Arts Graduates Appraise Their Education

The voices best able to testify concerning the values of liberal education are seldom heard. Major attention in this study is focused upon alumni attitudes toward their collegiate preparation. This chapter examines their judgments about college purposes, their conclusions about how well these purposes were actually fulfilled, their appraisals of various aspects of the academic experience, and their second thoughts about their choices of college and courses.

Appraisal of the General Program

Before reviewing their evaluation of liberal education, it is essential first to discover what liberal arts alumni hoped to obtain during their college preparation. The objective selected as most important was that of providing a broad fund of knowledge about different fields (Table 4-1).

TABLE 4-1

Evaluation of Objectives of a Liberal Education

"Liberal arts education should . . .

	Very Important	Fairly Important	Fairly Un-Important	Not Important at All	No Answer	Total
...provide a fund of knowledge about different fields"	66.7%	29.0	3.4	0.5	0.4	100.0%
...develop ability to get along with different types of people"	49.5%	33.8	12.2	4.1	0.4	100.0%
...develop a fund of knowledge useful in later life"	47.1%	39.8	11.1	1.4	0.6	100.0%
...train a person in depth in at least one field"	40.9%	33.2	18.8	6.4	0.7	100.0%
...develop social poise"	20.5%	43.7	26.8	8.2	1.8	100.0%
...develop moral capacities, ethical standards and values"	56.8%	31.1	8.6	3.0	0.5	100.0%

Clustered in a secondary position were the objectives of developing ability to get along with different types of people, developing moral capacities, ethical standards and values, providing a fund of knowledge useful in later life, and training a person in depth in at least one field. Ranked considerably less important was the development of social poise.

The alumni then were asked whether how well their own education had achieved each of these goals (Table 4-2). A comparison of expectations and

TABLE 4-2

Appraisal of Liberal Arts Education in Meeting Selected Objectives

"Did your education ...

	Yes	No	No Answer	Total
...provide a broad fund of knowledge about different fields"	79.6%	15.0	5.4	100.0%
...develop moral capacities, ethical standards and values"	68.3%	25.9	5.8	100.0%
...develop ability to get along with different types of people"	72.2%	22.2	5.6	100.0%
...develop a fund of knowledge useful in later life"	80.0%	14.1	5.9	100.0%
...train a person in depth in at least one field"	58.6%	35.6	5.8	100.0%
...develop social poise"	53.2%	40.6	6.2	100.0%

achievements shows a fairly high degree of alumni satisfaction. Yet each objective fell somewhat short of accomplishment in the views of alumni. The widest gap between expectation and achievement came in the areas of providing of a broad fund of knowledge about different fields and developing of moral capacities and ethical standards.

The survey questionnaire did not ask for opinions about the total length of the liberal arts program, but comments volunteered by the alumni suggest that this is a topic of at least some concern.

> Liberal arts education should be extended to a five year program and students should take a wide variety of electives before choosing a major field of study. (Arizona State University)
>
> Today's industry demands a minimum of five years of study. (University of Arkansas)
>
> We need a longer college course. Five or six years is not too much. I would like to begin with two or three years of electives and then take the last three years in my specialized field. (Lousiana State University)

More than four-fifths of the graduates agree that their college courses, on the whole, were "quite challenging and interesting" (Table 4-3). Here,

TABLE 4-3

Extent of Challenge and Interest of Courses by Academic Record, Type of Major, Quality, and Control of College

"The courses I took were, on the whole, quite challenging and interesting."

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	18.3%	68.0	12.2	1.0	0.5	100.0%
Academic Record						
High	20.8%	68.2	10.0	0.6	0.4	100.0%
Average	19.4%	68.0	11.2	1.0	0.4	100.0%
Low	14.9%	68.5	14.9	1.1	0.6	100.0%
Type of Major						
Science and Math.	18.0%	69.9	10.8	0.9	0.4	100.0%
Social Sciences	17.5%	68.0	13.0	0.9	0.6	100.0%
Humanities	20.6%	64.9	12.6	1.4	0.5	100.0%
Quality of College						
High	25.1%	65.4	8.5	0.6	0.4	100.0%
Medium	16.9%	68.0	13.4	1.1	0.6	100.0%
Low	15.9%	69.8	12.8	1.1	0.4	100.0%
Control of College						
Catholic	15.9%	66.6	15.2	1.6	0.7	100.0%
Public	16.2%	69.1	13.0	1.3	0.4	100.0%
Private	20.3%	67.6	11.0	0.7	0.4	100.0%

alumni with the highest academic records, those from the high-quality institutions, and those from private institutions were the most satisfied. There was a slight tendency for majors in science and mathematics to express more satisfaction with their courses. While not shown, year of graduation did not produce differences in satisfaction. It should be noted that Table 4-3 reveals that graduates were relatively but not completely satisfied with courses. While 86 percent of the respondents generally agreed courses were challenging and interesting, only 18 percent were willing to express strong agreement.

Some alumni comments indicate that the graduates, at least in retrospect, place a high value on demanding programs and faculty members:

> While I spent a lot of time in an academic environment, I did not really receive a sound basic education: not in the liberal arts nor in the sciences. I consider much of this my own fault, but also the fault of the environment itself--which was anything but demanding. It was frankly easy, the times were easy, and the whole experience was soft.

> As much as possible, take courses from the most challenging professors regardless of the field and seek their personal advice on their fields and their appraisals of you. (UCLA)

> Students should pick demanding teachers, no matter what the subject. (Boston College)

Alumni satisfaction with the extent of their undergraduate training in the important area of self-expression is shown in Table 4-4. Seventy percent of the graduates agree that they received good training in the means of expressing their ideas, but a significant 30 percent express disagreement. Logically, humanities majors are the most satisfied with this training and science and mathematics majors the least.

TABLE 4-4

Extent to Which Graduates Received Good Training in Self-Expression by Type of Major

"I received good training ... how to express my ideas clearly."

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	15.4%	53.2	27.5	3.4	0.5	100.0%
Type of Major						
Science-Math	9.5%	52.7	33.3	3.9	0.6	100.0%
Social Sciences	16.5%	53.3	26.3	3.4	0.5	100.0%
Humanities	22.6%	53.5	20.5	3.6	0.8	100.0%

In reporting on the balance between academic and extra-curricular activities on their campuses, only 16 percent of the alumni feel their college education placed too much emphasis on outside activities.

Alumni tend to place their own final stamp of approval on liberal education when nearly four out of five agree with the statement, "I would advise a 1963 high school graduate to take a liberal arts major." (Table 4-5). Some who disagree said that they did so because any such blanket

TABLE 4-5

Extent to Which Alumni Would Now Recommend a Liberal Education by Year of Graduation, Type of Major, Academic Record, Quality, Size, and Control of College

"I would advise a 1963 high school graduate to take a liberal arts major."

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	33.6%	43.9	15.6	4.7	2.2	100.0%
Year of Graduation						
1948	30.9%	45.3	16.6	4.7	2.5	100.0%
1953	33.3%	44.1	15.3	4.6	2.2	100.0%
1958	36.0%	42.2	14.8	4.7	2.3	100.0%
Type of Major						
Science and Math.	28.3%	44.8	18.9	5.6	2.4	100.0%
Social Sciences	34.7%	44.2	14.8	4.5	1.8	100.0%
Humanities	40.2%	41.6	11.9	3.5	2.8	100.0%
Academic Record						
High	39.0%	45.1	11.4	2.1	2.4	100.0%
Average	34.4%	44.1	15.1	4.1	2.3	100.0%
Low	30.4%	43.6	18.0	6.1	1.9	100.0%
Quality of College						
High	40.8%	40.8	12.1	3.4	2.9	100.0%
Medium	31.0%	44.2	17.2	5.4	2.2	100.0%
Low	32.5%	45.4	15.7	4.5	1.9	100.0%
Size of College						
Small	37.4%	44.4	12.8	3.4	2.0	100.0%
Medium	33.4%	43.6	16.0	4.5	2.5	100.0%
Large	28.8%	43.6	18.7	6.6	2.3	100.0%
Control of College						
Catholic	33.5%	46.5	14.2	3.8	2.0	100.0%
Public	26.7%	45.5	20.0	5.6	2.2	100.0%
Private	38.6%	42.2	12.8	4.1	2.3	100.0%

advice might not be appropriate to all individuals. Humanities majors and graduates of high-quality colleges are the most loyal to liberal arts. Alumni who attended private colleges or small institutions, or who earned the highest grades are also more likely to endorse liberal education.

Appraisal of College Major

The best evaluation of a college major may be whether its graduates would repeat it. Overall, 49 percent of the respondents would major in the same subject--ranging from 55 percent of the science and mathematics graduates to 44 percent of the social science alumni (Table 4-6). Another 32 percent would switch majors, but within the area of liberal arts.

The least loyalty to original major (less than 40 percent would repeat) was shown by those who majored in general science, geography, economics, general social science, sociology, speech, religion, and general humanities. The greatest loyalty (more than 60 percent would repeat) is reported by those who studied physics, pre-medicine, art, and music. Those who would switch within the liberal arts are most likely to elect either science and mathematics or social sciences rather than the humanities.

Where majors in science and mathematics would now choose a non-liberal arts field, it is usually engineering. Those from the social sciences or humanities who would now elect a non-liberal arts subject most frequently favor business administration. Still, over 80 percent of the graduates, it should be emphasized, would repeat a liberal arts major.

Appraisal of Individual Courses

The range of courses taken by liberal arts alumni is formidable (Table 4-7). Since some graduates selected courses outside the traditional liberal arts program, the list of subjects taken includes accounting, agriculture, business administration, engineering, journalism, physical education, and ROTC. Reflecting basic college requirements, almost all alumni took some courses in English, foreign languages, history, and mathematics. More remarkable is the variety of the curriculum followed. (Table 4-7 is on page 48.)

The graduates also were asked now whether they wished they had taken more, the same, or fewer courses in each field. Here the desire to take individual courses exceeds the normal capacity of the college program. In only five fields out of 31 would alumni take less rather than more course work, and four of the five are non-liberal arts fields: agriculture, education, physical education, and ROTC. As many as 40 percent or more of the respondents wish they had taken more course work in nine fields: art or art history, economics, English, foreign languages, history, mathematics, philosophy, political science, and speech.

Each graduate was asked to list the subject which was the most enjoyable, the best taught, the most difficult, and the most useful in his career.

For each type of major, respondents found their most enjoyable courses within their own general major fields (Table 4-8). Humanities majors are the most likely to enjoy courses in their own general area, more than three-fourths of them listing a humanities course as the most enjoyable. (Table 4-8 is on page 49.)

TABLE 4-6

Original and Present Choice of Major Field

Original Major	Would Repeat Major	Would Change Major to Another Liberal Arts Field in . . .			Would Change Major to a Non-Liberal Arts Field				
		Science & Math	Social Sciences	Humanities	Business Admin.	Engineering	Education	Other or No Answer	Total
All Graduates	49.4%	11.8	11.5	8.9	7.3	5.0	1.9	4.2	100.0%
Chemistry	54.5%	21.6	5.1	4.5	3.5	7.2	0.8	2.8	100.0%
Physics	69.1%	12.4	3.9	2.8	3.4	6.2	0.6	1.6	100.0%
Geology	43.0%	17.7	11.2	4.9	4.5	14.0	1.7	3.0	100.0%
Biology	48.7%	20.4	8.0	9.0	4.9	4.1	0.9	4.0	100.0%
Pre-Med	68.5%	7.0	7.0	6.6	4.0	4.6	1.2	1.1	100.0%
Math.	56.9%	10.1	5.2	4.5	5.3	14.2	0.9	2.9	100.0%
Gen. Science	12.3%	38.5	6.2	10.8	1.5	15.4	3.1	12.2	100.0%
Total Sci-Math	54.9%	16.5	6.6	5.8	4.3	7.7	0.9	3.3	
Economics	39.0%	8.7	12.3	9.4	15.5	6.8	2.2	6.1	100.0%
Anthropology	53.1%	14.3	12.2	6.1	2.0	5.1	2.0	6.2	100.0%
Gen. Soc. Sci.	37.0%	10.9	19.0	7.6	14.2	1.4	5.3	4.6	100.0%
Geography	35.7%	15.7	12.8	5.7	8.6	11.4	1.4	8.7	100.0%
History	49.2%	8.9	14.5	10.8	7.9	2.1	2.6	4.0	100.0%
Poli. Sci.	48.0%	7.9	14.6	11.8	8.9	2.7	1.3	4.8	100.0%
Psychology	39.0%	9.5	22.3	8.6	18.6	3.5	4.1	4.4	100.0%
Total Soc. Sci.	43.9%	10.2	13.9	10.3	10.3	4.2	2.3	4.9	
English	58.1%	6.4	14.5	9.9	4.2	2.7	1.5	2.7	100.0%
Speech	38.1%	8.2	14.2	15.7	14.2	2.2	3.7	3.7	100.0%
Philosophy	58.4%	6.5	15.1	11.7	4.5	0.3	1.7	1.8	100.0%
Religion	37.9%	6.9	18.1	16.4	3.4	2.6	9.5	5.2	100.0%
Art	60.8%	3.3	10.0	8.3	5.8	5.0	2.5	4.3	100.0%
Gen. Humanities	31.5%	11.0	24.4	11.0	5.5	2.4	3.1	11.1	100.0%
Music	66.7%	6.9	4.9	6.9	3.9	4.9	4.9	0.9	100.0%
Languages	43.5%	11.1	13.9	13.9	9.6	3.4	1.4	3.2	100.0%
Total Humanities	53.2%	7.1	14.8	11.1	5.6	2.1	2.1	4.0	

TABLE 4-7

Courses Taken in Each Subject and Present Evaluation of Each

"Here is a list of subjects which may have been offered in your undergraduate college. To the best of your memory, how many courses did you take in each subject, and how do you now feel about them?'

	"How many undergraduate courses did you take in each subject?"						"Do you wish now that you had taken more, the same, or less courses in each subject?"				
	None	One	Two-Three	Four or More	No Ans.	Total	Less	The Same	More	No Ans.	Total
Accounting	70%	15	9	2	4	100%	4%	53%	35%	8%	100%
Agriculture	91%	1	1	1	6	100%	6%	76	5	13	100%
Anthropology	73%	15	5	1	6	100%	4%	52	34	10	100%
Art or Art History	60%	22	10	3	5	100%	4%	46	41	9	100%
Biology	34%	23	22	18	3	100%	8%	59	26	7	100%
Business Admin.	69%	8	9	8	6	100%	4%	48	38	10	100%
Chemistry	37%	18	19	22	4	100%	11%	58	24	7	100%
Economics	31%	28	21	17	3	100%	5%	45	44	6	100%
Education	66%	8	8	14	4	100%	15%	63	14	8	100%
Engineering	78%	5	6	6	5	100%	7%	64	18	11	100%
English	1%	8	43	48	-	100%	3%	53	41	3	100%
Foreign Lang.	10%	16	42	31	1	100%	12%	45	40	3	100%
General Human.	38%	17	26	14	5	100%	4%	58	30	8	100%
General Science	63%	17	11	3	6	100%	4%	71	15	10	100%
Gen. Soc. Sciences	46%	18	21	10	5	100%	5%	70	17	8	100%
Geography	69%	19	6	2	4	100%	4%	61	26	9	100%
Geology	68%	16	7	5	4	100%	6%	62	24	89	100%
History	10%	17	40	32	1	100%	5%	47	45	3	100%
Journalism	85%	5	3	1	6	100%	5%	65	21	9	100%
Mathematics	19%	20	33	26	2	100%	7%	47	41	5	100%
Music or Music Hist.	63%	22	8	3	4	100%	4%	54	34	8	100%
Physical Education	32%	15	28	22	3	100%	13%	70	11	6	100%
Physics	41%	25	22	9	3	100%	6%	56	31	7	100%
Philosophy	29%	27	25	17	2	100%	5%	42	48	5	100%
Pre-Medical	74%	2	4	14	6	100%	9%	74	7	10	100%
Political Science	30%	26	24	17	3	100%	4%	49	42	5	100%
Psychology	20%	31	31	16	2	100%	7%	50	39	4	100%
Religion	50%	18	15	15	2	100%	7%	63	23	7	100%
ROTC	64%	6	10	16	4	100%	20%	67	4	9	100%
Sociology	39%	31	18	9	3	100%	8%	59	24	6	100%
Speech	38%	36	17	6	3	100%	4%	46	44	6	100%

TABLE 4-8

Most Enjoyable Course During College by Type of Major

Most Enjoyable Course Was in:	Major		
	Science and Mathematics	Social Sciences	Humanities
Science and Mathematics	67.8%	8.3%	5.8%
	(Biology: 18.9)[a] (Chemistry: 17.0) (Mathematics: 14.7)	(Biology: 2.6) (Mathematics: 2.2) (Geology: 1.5)	(Mathematics: 1.8) (Biology: 1.6) (Geology: 0.9)
Social Sciences	11.9	66.6	14.7
	(History: 4.6) (Psychology: 2.5) (Anthropology: 1.3)	(History: 23.9) (Pol. Sci.: 11.7) (Psychology: 10.8)	(History: 6.2) (Psychology: 3.1) (Pol. Sci.: 1.6)
Humanities	16.7	18.3	76.4
	(Philosophy: 4.9) (English: 4.0) (For. Lang.: 2.5)	(English: 5.4) (For. Lang.: 2.2) (Philosophy: 4.8)	(English: 34.0) (Philosophy: 12.0) (For. Lang.: 7.5)
Other	3.6	6.8	3.1
Total:	100.0%	100.0%	100.0%

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a. Entries in parentheses indicate the most frequently mentioned courses in each area, with the percentages selecting those courses.

Majors and non-majors generally agreed on subject preferences both within and outside their own fields. All three types of majors selected courses in biology and mathematics as two of the three most enjoyable subjects in science and mathematics. All three named history and psychology as two of the three most enjoyable subjects in the social sciences. And all three agreed upon philosophy, English, and foreign languages as the three most enjoyable subjects in the humanities area.

Considerable unanimity also was displayed in rating the most difficult courses (Table 4-9). Regardless of type of major, the majority of all graduates found their most difficult subject within the sciences and mathematics--usually specifically mathematics. Almost a third of the majors in each general category identified a humanities course as the most difficult, particularly a foreign language. Relatively few (8 to 12 percent) named social science courses as their hardest. (Table 4-9 is on page 50.)

TABLE 4-9

Most Difficult Subjects During College

"Which subject did you find the most difficult?"

	Major		
Most Difficult Subject in:	Science and Mathematics	Social Sciences	Humanities
Science and Mathematics	58.1%	50.6%	52.0%
	(Physics: 20.7) (Math: 20.2) (Chemistry: 14.5)	(Math: 21.7) (Chemistry: 11.8) (Physics: 9.8)	(Math: 18.8) (Chem.: 11.8) (Physics: 10.0)
Social Sciences	8.3	11.3	12.1
	(History: 3.4) (Econ.: 2.0) (Psychology: 0.9)	(Economics: 4.7) (Psychology: 2.1) (History: 2.0)	(Economics: 4.6) (History: 3.8) (Psychology: 1.5)
Humanities	29.5	30.6	29.5
	(For. Lang.: 17.0) (English: 7.3) (Philosophy: 2.9)	(For. Lang.: 18.1) (Philosophy: 5.5) (English: 4.7)	(For. Lang.: 15.8) (Philosophy: 6.9) (English: 3.8)
Other	4.2	7.5	6.4
	100.0%	100.0%	100.0%

Enjoyment of a course seems closely related to good teaching. The courses previously mentioned as the most enjoyable (Table 4-8) were frequently credited with the best teachers (Table 4-10). Regardless of the type of original major, there was general consensus that history was the best taught among the social sciences and that English was best among the humanities. Within the area of science and mathematics, the three subjects which appeared at the top of all the scales were chemistry, biology, and mathematics. Majors in science and mathematics rated chemistry as having the best teachers; social science and humanities students felt the best instructors were in biology. (Table 4-10 is on page 51.)

The most useful courses elicited quite a different set of nominations (Table 4-11). All three types of majors specified psychology as the social sciences subject most useful in their careers, and all three agreed upon

TABLE 4-10

College Courses with the Best Teachers by Type of Major

Subject with Best Teachers in:	Major Science and Mathematics	 Social Sciences	 Humanities
Science and Math	66.0%	10.1%	6.7%
	(Chemistry: 18.8) (Biology: 17.5) (Math.: 15.6)	(Biology: 3.0) (Math.: 15.6) (Chemistry: 1.9)	(Biology: 2.3) (Math.: 1.8)
Social Sciences	10.1	61.7	15.9
	(History: 5.8) (Psych.: 1.5) (Econ.: 1.3)	(History: 24.8) (Pol. Sci.: 12.1) (Econ.: 11.4)	(History: 8.5) (Psych.: 1.9) (Pol. Sci.: 1.8)
Humanities	18.6	22.5	73.9
	(English: 5.9) (Phil.: 5.1) (For.Lang.: 3.6)	(English: 8.0) (Phil.: 6.7) (For.Lang.: 2.8)	(English: 35.1) (Phil.: 13.5) (For. Lang.: 7.7)
Other	3.6	5.7	3.5
	100.0%	100.0%	100.0%

English as the most useful humanities subject. Two of the three types of majors nominated speech as one of the most useful humanities subjects. Whereas three-fourths of all science and mathematics majors and humanities majors found their most useful subjects within their own fields, less than half of the social sciences majors nominated a social science subject as most useful. Many of them found a humanities subject the most useful, and a significant number nominated a non-liberal arts subject, often business administration or accounting. The frequent mention of English and speech reflects the importance of competent oral and written self-expression in career success. (Table 4-11 is on page 51.)

Appraisal of Alma Mater

Given a second chance, somewhat more than half the graduates would attend the same college (Table 4-12). Recent graduates and those who origi-

TABLE 4-11

College Course Most Useful in Career by Type of Major

	Major		
Subject Most Useful in Career:	Science and Mathematics	Social Sciences	Humanities
Science and Mathematics	77.7%	6.3%	5.8%
	(Chemistry: 21.4) (Biology: 19.3) (Math: 15.3)	(Math.: 3.5) (Biology: 0.9)	(Math.: 2.9) (Biology: 1.1) (Pre-Med: 0.7)
Social Sciences	4.4	47.9	10.2
	(Psych.: 2.3) (Economics: 0.9)	(Psych.: 12.5) (Economics: 11.7) (History: 9.6)	(Psych.: 4.2) (pol. Sci.: 1.7) (Economics: 1.5)
Humanities	10.6	27.3	74.8
	(English: 6.6) (Phil.: 1.2)	(English: 17.4) (Speech: 3.3) (Phil.: 3.0)	(English: 39.8) (Phil.: 8.8) (Speech: 7.0)
Other	7.3	18.5	9.2
	100.0%	100.0%	100.0%

nally went to high-quality institutions are more likely to repeat their original choice. While not shown, size and type of control of college, academic record, and type of major seem to have little effect on the desire to attend the same institution. (Table 4-12 is on page 53.)

Loyalty to institution of original choice is influenced to a substantial degree by the amount of faculty contact experienced by the alumni during their undergraduate years (Table 4-13). Highest degree earned and leadership in student activities bear little relation to the decision whether to choose the same institution a second time. (Table 4-13 is on page 54.)

Appraisal of Graduate Education

Most alumni evaluate graduate training positvely (Table 4-14). (These responses are limited to those who attended graduate school.) While attitudes

TABLE 4-12

Whether Graduates Would Attend the Same College by Year of Graduation and Quality of College

"If you could start college all over again, would you still attend the same college you earned your degree from?"

	Yes	Not Sure	No	No Answer	Total
All Graduates	56.9%	29.3	13.5	0.3	100.0%
Year of Graduation					
1948	52.4%	32.0	15.1	0.5	100.0%
1953	57.9%	28.4	13.5	0.2	100.0%
1958	60.4%	27.5	11.9	0.2	100.0%
Quality of College					
High	70.5%	20.6	8.5	0.4	100.0%
Medium	54.7%	30.4	14.5	0.4	100.0%
Low	51.4%	33.2	15.3	0.1	100.0%

differ, most graduates feel that they benefitted more from graduate than undergraduate education and that graduate school was more difficult. They feel their graduate education was valuable in helping to complete their education, but at the same time, they acknowledge that liberal arts was valuable in itself. For the most part, they took advanced training for career purposes rather than to pursue intellectual interests. (Table 4-14 is on page 55.)

Summary

The alumni are, in general, satisfied with their liberal arts education. Most would advise today's high school graduate to take liberal arts. Over 80 percent would major in a liberal arts subject if they themselves were beginning college over again. Approximately half would repeat their original major, ranging from 55 percent of the mathematics and science majors to 53 percent of those from the humanities, and 44 percent of those from the social sciences.

TABLE 4-13

Whether Graduates Would Attend the Same College by Highest Degree Earned, Student Government Leadership, Campus Publications Editorship, and Amount of Faculty Contact

"If you could start college all over again, would you still attend the same college you earned your degree from?"

	Yes	Not Sure	No	No Answer	Total
All Graduates	56.9%	29.3	13.5	0.3	100.0%
Highest Degree Earned					
Bachelor's	56.7%	30.0	13.0	0.3	100.0%
Master's or Prof.	58.6%	27.8	13.3	0.3	100.0%
Doctor's	50.7%	31.5	17.6	0.3	100.0%
Student Government Leader					
Yes	59.6%	28.6	11.6	0.2	100.0%
No	56.6%	29.3	13.7	0.4	100.0%
College Editor					
Yes	55.6%	28.6	15.7	0.1	100.0%
No	57.0%	29.3	13.3	0.4	100.0%
Amount of Contact with Faculty Members					
Great Deal	64.2%	25.6	9.8	0.4	100.0%
Some	58.1%	29.2	12.5	0.2	100.0%
Very little	50.2%	32.9	16.5	0.4	100.0%
None	43.0%	29.3	27.1	0.6	100.0%

Their courses were rated as quite challenging and interesting by 86 percent of the alumni. Graduates tend to nominate a subject from their own general major field as "the most enjoyable"--science and mathematics majors select biology, social sciences majors choose history, and humanities majors name English. The same pattern prevails for the selection of "the best teachers"--except that science and mathematics majors this time specify chemistry instead of biology. Half or more of all the graduates name a subject in the science and mathematics field as "the most difficult." Three-quarters of all science and mathematics majors and all humanities majors name a subject within their own major area as "the most useful" in their careers--for science and mathematics majors it is chemistry, and for humanities majors it is English. Less than half the social science majors consider a subject in the social sciences as the most useful. Psychology is the leader in the social sciences field, but is surpassed by English.

TABLE 4-14

Evaluation of the Role of Graduate or Professional Education (7,350 alumni who attended graduate or professional school only)

Extent of agreement or disagreement with . . .

	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
"Without graduate school, I would feel that my education was not complete"	46.0%	33.4	16.0	4.6	100.0%
"Graduate or professional school was more difficult than undergraduate education"	27.6%	35.6	30.4	6.4	100.0%
"Liberal arts was essentially preparation for graduate school, rather than training useful for my field"	16.2%	33.0	39.4	11.4	100.0%
"On balance, I benefitted more from my undergraduate education than from graduate or professional school"	14.1%	26.5	38.8	20.6	100.0%
"I took graduate study primarily to follow my own intellectual interests, rather than because it might help my career?	7.9%	17.9	49.9	24.3	100.0%
"Graduate school was really a waste of time"	1.2%	2.3	27.1	69.4	100.0%
"I entered graduate school with a fairly clear idea of my vocational goal."	44.9%	39.5	12.8	2.8	100.0%
"Graduate study helped me avoid being stuck at a low level in my field."	45.0%	34.1	15.9	5.0	100.0%

When asked what subject they would now like to take, the graduates nominate more of almost everything. Some of them wish they had taken more courses with job implications (44 percent wish they had taken more economics; 41 percent, more mathematics; and 35 percent, more accounting). Yet the subject the greatest number of alumni (48 percent) wish they had taken more of, interestingly, is strikingly non-vocational in nature: philosophy. Only 69 percent of the graduates feel their liberal education had provided good training in self-expression. As a result, 44 percent of the alumni wish they had taken more speech and 41 percent, more English.

Only 14 percent of the alumni definitely would not attend the same college again. Fifty-seven percent would choose their original college again and 29 percent were not sure. The keys to satisfaction with undergraduate colleges include the quality of the college and the extent of student-faculty contacts. On this score, most of the graduates feel that faculty members were "really interested in their students" (23 percent strongly agree and 62 percent agree).

Among the three-quarters of the alumni who pursued graduate education, three times as many took it for career advancement as for purely intellectual interests--although the two may often be the same. Majors in science and mathematics rated graduate study the most useful in their careers.

Finally, the respondents were asked what they considered to be the goals of liberal education. They feel, most of all, that liberal education should provide a broad fund of knowledge about different fields. Next in importance were the development of moral capacities and ethical standards, the cultivation of ability to get along with different types of people, the acquisition of a useful fund of knowledge, and the acquisition of intensive training in at least one field. The graduates feel that their own education tended to achieve these goals.

PART III: THEIR CAREERS

Let us turn now to the career status of liberal arts graduates an often debated and seldom documented story.

The next chapter will explore their current work assignments: who employs liberal arts alumni and for what jobs? Do their positions make use of their liberal education? How much do they earn and what are the distinctions by type of employer or occupation? By organizations of what size are the graduates employed? Do their jobs involve supervision of the work of others?

Next, in Chapter 6, the career progress of alumni will be studied. Do they really have a career goal and when was it established? How much use was made of vocational guidance and placement services and how useful were they? For how many different employers have they worked? Why did graduates leave each job? Have liberal arts alumni been unemployed for long periods of time since graduation?

Factors influencing the careers of alumni will be discussed in Chapter 7. Did education and occupations of parents influence careers of college alumni? What has been the movement between occupations? Did academic record, quality of institution attended, and type of major effect career? How do scholarship holders, self-supporting students, and athletes fare after college? Does the graduate work hard and what sacrifices is he willing to make for his career? Do minority group graduates show different career patterns?

Finally, in Chapter 8 alumni evaluate their own career progress. Are they satisfied with their jobs? If not, what would they like to be doing? Does their position meet personal and career needs? Do they wish they were working for another type of employer? Which? How satisfied are alumni with job supervisors, colleagues, and subordinates? How do they feel about their income? Was undergraduate and, if any, graduate education of value in their career?

Chapter 5: Career Status of Liberal Arts Alumni

Historically, America's earliest liberal arts graduates pursued careers in the ministry, law, and medicine. Over the years, it has been assumed that career patterns of liberal arts alumni have changed radically. Yet there is little empirical evidence available to describe or even to substantiate those changes.

This chapter presents the career status of liberal arts graduates of 1948, 1953, and 1958. We shall examine their employers, their occupations, and their earnings.

Who Employs Liberal Arts Graduates?

To determine the broad sectors of the economy in which liberal arts graduates make their careers, respondents were asked to classify their employers according to the following list:

Private manufacturing or mining concern (e.g., steel plant, clothing factory, oil refinery)
Private non-manufacturing (e.g., telephone company, construction company, wholesale or retail trade, law office)
Agriculture (privately owned farm)
Elementary or secondary school
College or university
United States Military Service
Federal government (excluding teaching)
Research organization or institute
Hospital, church, clinic, or welfare organization
Other

The results show that liberal arts alumni are almost evenly distributed between the private and public sectors of the economy (Table 5-1). Private manufacturing, private non-manufacturing (including self-employed professionals), and private agriculture account for 48 percent of their total employment. Liberal arts employment in the public sector is most frequently in educational institutions, followed by government, welfare or service organizations (hospitals, churches, clinics, welfare groups), military service, and research organizations.

Despite the fact that state and local governments across the nation employ half again as many people as do federal agencies, more liberal arts alumni are associated with the federal government. The low percentage of college graduates in local government has, in fact, become a cause of national concern.

While many alumni have remained in the same categories since graduation, some shifts between first and current employers may be noted in Table 5-1. Three times as many graduates began their careers in the military service as are now affiliated with them. Hospitals, churches, and clinics show some decline between first and current employers. Private enterprise and higher education were the chief beneficiaries of shifts between initial and present employment. This analysis is complicated by the relatively high percentage

TABLE 5-1

First and Current Types of Employers of Liberal Arts Graduates

Type of Employer	First Employer	Current Employer
Private Manufacturing	16.8%	17.9%
Private Non-Manufacturing	25.6	29.7
Agriculture	0.3	0.3
Elementary and Secondary School	10.7	10.3
College or University	6.9	8.8
U.S. Military Service	14.2	4.5
Federal Government	5.2	5.5
State and Local Government	4.6	4.1
Research Organization	2.5	2.6
Hospital-Church-Clinic	11.3	8.8
Other	0.2	0.3
No Answer	1.7	7.2
Total	100.0%	100.0%

(7 percent) of alumni for whom no information on current employers was available.

Employer shifts by year of graduation are presented in Table 5-2.

TABLE 5-2

First and Current Types of Employers by Year of Graduation

	First Employer			Current Employer		
	Year of Graduation			Year of Graduation		
	1948	1953	1958	1948	1953	1958
Private Manufacturing	20.3%	17.1%	13.3%	19.6%	19.0%	15.2%
Private Non-Manufacturing	30.9	21.6	24.4	33.2	31.3	24.7
Agriculture	0.4	0.3	0.2	0.4	0.4	0.2
Elem-Second. Schools	12.4	8.6	11.1	10.1	10.2	10.5
Colleges-Universities	8.2	5.6	6.9	10.2	8.8	7.6
U.S. Military Service	3.6	23.9	14.8	1.8	3.6	7.9
Federal Government	5.9	4.4	5.4	5.4	5.2	5.9
State-Local Govt.	4.9	3.8	5.2	3.8	4.0	4.5
Research Organiz.	2.3	2.0	3.0	2.3	2.7	2.9
Hospital-Church-Clinic	10.2	12.1	11.6	7.9	9.3	9.1
Other	0.2	0.1	0.4	0.3	0.2	0.2
No Answer	0.7	0.5	3.7	5.0	5.3	11.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

These data reflect both the employment (and military) conditions existing when the alumni finished college and the actual trends in their careers. Thus, a high percentage of the 1953 and 1958 classes went directly from the campus to military - eight percent of the most recent class is still in military service. Contrasting the three bench-mark groups, one notices a slight trend away from the private sector, with corresponding gains scattered among various employers in the public sector.

One out of every seven respondents is currently self-employed (Table 5-3). Self-employment is much more typical of the older graduates. Twice as many alumni are self-employed on their current position as on their first job. Totals for those who were ever self-employed are only slightly higher than those for graduates currently working for themselves, suggesting that relatively few graduates have left self-employment. The alumni total of 14 percent self-employed compares favorable with the national average of 13 percent for all workers.

TABLE 5-3

Extent of Self-Employment by Year of Graduation

		Year of Graduation		
	All Graduates	1948	1953	1958
First Job				
Self-Employed	5.8%	8.6%	4.8%	4.1%
Not Self-Employed	92.8	91.1	94.8	92.3
No Answer	1.4	0.3	0.4	3.6
Total	100.0%	100.0%	100.0%	100.0%
Current Job				
Self-Employed	13.8%	20.1%	14.4%	7.1%
Not Self-Employed	79.2	75.2	80.4	81.9
No Answer	7.0	4.7	5.2	11.0
Total	100.0%	100.0%	100.0%	100.0%
Ever Self-Employed				
Self-Employed	14.6%	22.0%	15.6%	6.6%
Not Self-Employed	84.0	77.7	84.0	90.0
No Answer	1.4	0.3	0.4	3.4
Total	100.0%	100.0%	100.0%	100.0%

Liberal arts graduates tend to work for a large organization, two-thirds of our alumni reporting they are affiliated with organizations having over 100 employees (Table 5-4). Relatively few (9 percent) are employed by organizations having under four employees. Older graduates are more likely to be with small organizations, reflecting their higher rate of self-employment or work in professional practice. Almost a quarter of the more recent graduates work for organizations with over 10,000 employees.

TABLE 5-4

Size of Employing Organization by Year of Graduation

"Approximately how many other people work for the total organization by which you are employed?"

	Year of Graduation			
	1948	1953	1958	All Graduates
Under 4	11.6%	9.6%	5.9%	9.1%
4-10	8.3	7.1	4.6	6.7
11-20	4.3	3.6	3.4	3.8
21-40	3.5	4.0	3.9	3.8
41-100	7.7	6.0	6.8	6.8
101-300	11.0	11.3	9.8	10.7
301-1,000	12.8	12.1	12.5	12.5
1,001-3,000	9.8	10.1	10.5	10.1
3,001-10,000	10.7	11.1	11.5	11.1
Over 10,000	17.1	21.6	24.1	21.0
No answer	3.2	3.2	7.0	4.4
Total	100.0%	100.0%	100.0%	100.0%

Type of employer is related to the size of the employing organization (Table 5-5). Large organizations are characteristic of private manufacturing, research organizations, and colleges and universities, and, of course, federal and local governments and the U.S. Military services. Thus, almost half of the graduates who work for private manufacturing concerns report their organizations employ 10,000 or more. Alumni employed in agriculture, hospitals, churches, and clinics, and private non-manufacturing concerns tend to work for smaller organizations. (Table 5-5 is on page 62.)

Relatively few liberal arts graduates supervise significant numbers of either sub-professional or professional and managerial employees (Table 5-6). Thirty-six percent supervise no sub-professional employees, and 42 percent no managerial or professional persons. Obviously, older alumni are much more likely to have supervisory responsibilities. As might be expected,

TABLE 5-5

Size of Employing Organization by Type of Employer

"Approximately how many other people work for the total organization by which you are employed?"

	Under 4	4-10	11-40	41-100	101-1,000	1,000-3,000	3,001-10,000	Over 10,000	No Answer	Total
All Graduates	9.1%	6.7	7.6	6.8	23.2	10.1	11.1	21.0	4.4	100.0%
Type of Employer										
Private Manufactur.	1.0%	1.3	3.5	4.1	16.7	11.2	18.0	43.8	0.4	100.0%
Private Non-Manufact.	20.1%	14.6	12.8	7.4	16.1	7.8	8.7	9.1	3.5	100.0%
Agriculture	43.3%	18.9	16.2	8.1	2.7	5.4	2.7	--	2.7	100.0%
Elem-Second. Schools	0.4%	1.2	10.0	16.3	45.7	9.1	7.8	8.8	0.7	100.0%
Colleges-Universities	0.3%	0.6	3.5	9.9	46.4	19.3	13.5	4.4	2.1	100.0%
U.S. Military Service	--	0.6	0.2	1.0	1.2	1.2	1.2	92.2	2.5	100.0%
Fed. Govt.	0.3%	1.0	2.3	1.5	16.0	15.0	17.7	44.7	6.5	100.0%
State-Local Govt.	1.3%	4.5	7.8	6.5	37.4	10.9	14.3	16.7	0.7	100.0%
Research Organiz.	4.2%	4.2	4.2	3.9	22.8	20.4	20.4	18.6	1.4	100.0%
Hospital-Church Clin.	20.0%	12.4	7.7	5.2	25.8	10.2	6.6	8.4	3.7	100.0%

TABLE 5-6

Type and Number of Employees Supervised by Year of Graduation and Type of Employer

"How many employees do you directly supervise?"

	Clerical, Laboratory and Sub-Professional							Professional and Managerial						
	None	1-3	4-10	11-20	Over 20	No A.	Total	None	1-3	4-10	11-20	Over 20	No A.	Total
All Graduates	35.5%	30.4	12.9	3.4	5.8	12.0	100.0%	42.4%	15.4	9.7	2.9	4.4	25.2	100.0%
Year of Graduation														
1948	25.0%	34.1	16.9	4.4	8.2	11.4	100.0%	31.6%	18.5	13.2	4.6	7.1	25.0	100.0%
1953	34.6%	33.3	12.9	3.0	4.6	11.6	100.0%	42.8%	17.0	10.0	2.2	3.7	24.3	100.0%
1958	46.4%	23.9	9.2	2.8	4.7	13.0	100.0%	52.4%	10.8	5.7	1.9	2.6	26.6	100.0%
Type of Employer														
Priv. Manuf.	35.0%	29.6	13.2	4.3	7.5	10.4	100.0%	41.8%	16.6	11.4	3.0	4.4	22.8	100.0%
Priv. Non-Mf.	25.6%	39.3	15.3	3.9	5.9	10.0	100.0%	37.0%	18.6	9.5	2.3	3.0	29.6	100.0%
Agriculture	27.0%	29.7	13.5	2.7	13.5	13.6	100.0%	29.7%	16.2	8.1	2.7	2.7	40.5	100.0%
El-Sec. Sch.	64.0%	9.5	7.0	1.6	2.8	15.2	100.0%	61.1%	5.0	5.9	5.6	9.7	12.7	100.0%
Coll-Univ.	43.0%	32.1	11.5	2.5	3.2	7.7	100.0%	52.1%	13.3	7.3	2.1	3.0	22.2	100.0%
U.S. Mil.	20.0%	23.1	18.8	5.4	19.4	13.3	100.0%	27.5%	18.6	16.7	5.0	12.8	19.4	100.0%
Federal Government	40.3%	34.0	12.7	4.0	2.5	6.5	100.0%	47.2%	15.0	10.3	3.3	3.5	20.7	100.0%
St-Loc. Govt.	33.2%	36.3	14.7	3.1	4.2	8.5	100.0%	39.2%	19.5	14.9	2.0	3.6	20.7	100.0%
Research Org.	34.4%	39.6	13.3	3.2	5.3	4.2	100.0%	47.0%	14.4	10.9	2.8	2.8	22.1	100.0%
Hosp-Ch-Clin.	34.1%	32.2	13.3	3.4	6.1	10.9	100.0%	39.0%	19.5	10.4	2.4	2.9	25.8	100.0%

higher numbers of subordinates were reported within the military services than in other types of employment. Surprisingly high were the large numbers of persons supervised by graduates employed by elementary and secondary schools. Data in this table should be regarded with caution because of the large percentage of graduates who failed to answer the inquiry about number of employees supervised. It was 12% for clerical but 25% for managerial.

How does type of employer differ for liberal arts alumni and for graduates from other fields of study? Some indication is provided in Table 5-7,

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TABLE 5-7

Employers of Liberal Arts Graduates, Graduates from All Fields, and Engineering Graduates

Type of Employer	Male Liberal Arts Graduates	Male Graduates from All Fields	Engineering Graduates (largely Male)
Private Manufactur.	19.3%	26.1%	64.2%
Private Non-Manufact.	32.0	24.2	12.1
Agriculture	0.3	0.4	--
Elem-Second. Schools	11.1	20.8	--
Colleges-Universities	9.5	7.2	2.7
U.S. Military Service	4.9	--	--
Federal Government	5.9	6.0	11.1
State-Local Govt.	4.4	5.0	5.8
Research Organiz.	2.8	--	4.1
Hospital-Church Clin.	9.5	4.6	--
Other	0.3	5.7	--
Total	100.0%	100.0%	100.0%

Sources of data:

Liberal arts: This study.
In this, the percentage for non-respondents has been eliminated to conform with the handling of data in the other two studies.

All fields:
Based on 1958 graduates studies in 1960 from Two Years After the College Degree, Bureau of Social Science Research, Washington, D.C., Prepared for the NSF (Washington, D.C.: U.S. Government Printing Office, 1963), p. 51.

Engineers:
From a survey of 23,618 engineering graduates from all classes, from Professional Income of Engineers, 1964 (New York: Engineers Joint Countil, 1964), p. 12.

which compares the results from our liberal arts study with a nationwide study of male graduates from all fields, analysed two years after graduation, and with a general survey of engineering alumni from all graduating classes who are still employed. This comparison shows that liberal arts alumni are less heavily represented in private manufacturing concerns than are either of the other two groups. Yet, when private non-manufacturing concerns are included, the liberal arts graduates do not differ especially from the cross-section of all male graduates. The engineering alumni are the least heavily represented in all types of educational employment. Liberal arts alumni, on the other hand, are the most likely to be employed in colleges and universities, while they are less likely than the cross-section sample to be employed in elementary or secondary schools.

What Do They Do?

As anticipated, literally hundreds of different occupations were reported by the 11,000 liberal arts alumni. To reduce these to manageable proportions, the following occupation index was developed:

Lawyer
Clergyman
Elementary or Secondary school teacher or administrator
College teacher or administrator
Salesman (including real estate agent)
Social service worker (psychologist, social worker, etc.)
Medical worker (physician, surgeon, dentist, veterinarian, chiropracter)
Scientist or mathematician (biologist, chemist, engineer, mathematician, physicist, geologist, etc.)
Fiscal, office, or management worker (accountant, banking employee, manager, office worker, claims adjuster, business trainee, etc.)
Creative worker (architect, editor, artist, public relations worker, creative artist, communications worker)
Other (actuary, buyer, farmer, government officer not otherwise classified, health worker, naturalist, technician, union official, market researcher, contractor, librarian, athlete, pilot, craftsman, service worker, laborer, etc.)(1)
No answer (no information, not employed, in graduate school, etc.)

Liberal arts graduates were asked to indicate their first and their current occupations (Table 5-8). The largest group of alumni are currently

TABLE 5-8

First and Current Types of Occupations of Graduates by Year of Graduation

	All Graduates		1948		1953		1958	
	First Job	Current Job	First Job	Current Job	First Job	Current Job	First Job	Current Job
Lawyer	5.0%	6.8%	5.3%	6.4%	4.8%	7.9%	4.9%	6.1%
Clergyman	4.0	3.9	4.0	4.1	4.7	4.3	3.2	3.2
El-Sec. T.	7.1	11.8	8.6	11.6	5.9	11.1	6.9	12.7
College T.	8.6	5.3	10.0	7.2	6.6	5.4	9.1	3.2
Salesman	8.8	9.6	10.8	10.0	7.3	10.2	8.4	8.8
Social Ser.	4.4	4.0	4.3	3.9	3.4	4.0	5.4	4.3
Medical	8.4	8.5	7.4	7.7	9.4	9.7	8.4	8.1
Sci-Math.	12.9	11.9	14.3	11.7	12.3	12.2	12.1	11.9
Fis-Off-Mgt.	17.1	16.9	19.9	19.0	15.7	16.5	15.7	15.4
Creative	4.0	3.9	4.5	4.6	3.7	4.3	3.8	3.0
Other	17.9	9.5	9.7	8.5	25.4	8.8	18.4	11.3
No answer	1.8	7.9	1.2	5.3	0.8	5.6	3.7	12.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

employed in fiscal, office, and management occupations. Approximately the same percentage are teachers at all levels. The traditional professions of the liberal arts--law, clergy, and medicine--account for 20 percent of the graduates.

Comparing the three graduating classes, several trends are discernible. Fewer of the new graduates are engaged in elementary and secondary teaching, in fiscal, office, and management fields, and in the creative occupations. At the same time, more of the recent alumni are teaching at the college level, working in social service occupations, and employed in other fields.

Looking at the distribution of occupations by type of employer (Table 5-9), it is noted that over three-fourths of the lawyers are employed by private businesses (non-manufacturing)--this category includes those self-employed and members of private law firms. Most of the remaining lawyers (13 percent) work for a federal, state, or local government. Clergymen, salesmen, and teachers at all levels are employed within anticipated employer categories. Social service workers, fiscal, office, and management workers, and scientists and mathematicians are spread over the widest range of employers. More medical workers are in private practice than are employed by hospitals and clinics. (Table 5-9 is on page 67.)

TABLE 5-9

Occupational Distribution of Alumni by Type of Occupation

	Pvt. Man.	Pvt. Non-Man.	Agricul-ture	El-Sec. School	Coll.& Univ.	U.S. Mil.	Fed. Govt.	St & L Govt	Res. Org.	Hosp. Church	N.A.	Total
All Graduates	17.9%	29.7	0.3	10.3	8.8	4.5	5.5	4.1	2.6	8.8	7.5	100.0%
Type of Occupation												
Lawyer	3.9%	78.5	--	--	0.4	2.6	6.8	6.6	--	0.3	1.0	100.0%
Clergyman	--	0.2	--	0.2	0.7	1.7	--	0.2	--	96.7	0.2	100.0%
Elem-Second. Teach	0.6%	1.0	--	81.7	9.9	0.8	1.1	1.5	0.3	2.9	0.2	100.0%
College Teacher	--	--	--	--	99.8	--	--	--	0.2	--	--	100.0%
Salesman	41.3%	56.7	0.1	--	--	--	0.1	0.3	0.5	0.3	0.8	100.0%
Social Serv. Worker	2.7%	6.4	--	3.4	13.4	1.1	13.0	28.7	6.4	24.2	0.7	100.0%
Medical Worker	0.8%	43.4	--	--	3.7	14.8	3.0	2.3	0.7	30.3	1.2	100.0%
Scientist-Math.	49.4%	9.6	0.1	0.1	7.9	1.1	12.6	5.0	13.2	1.0	0.1	100.0%
Fiscal-Office-Mgmt.	28.7%	55.2	0.3	1.9	1.1	0.2	4.7	2.9	1.7	2.7	0.6	100.0%
Creative Worker	18.7%	67.1	--	0.2	3.3	0.5	3.3	0.5	1.9	3.3	1.4	100.0%
Other	19.1%	14.9	2.8	0.7	2.1	27.4	17.3	10.5	2.7	2.3	0.2	100.0%

Scientists and mathematicians are the most likely to work for very large organizations (Table 5-10). Nearly half of the lawyers and a majority of the clergymen report they work with 10 or fewer people.

TABLE 5-10

Size of Employing Organization by Type of Occupation

"Approximately how many other people work for the total organization by which you are employed?"

	Under 4	4-10	11-40	41-100	101-1,000	1,000-3,000	3,001-10,000	Over 10,000	No Answer	Total
ll Graduates	9.1%	6.7	7.6	6.8	23.2	10.1	11.1	21.0	4.4	100.0%
ype of Occupation										
Lawyer	27.3%	20.4	15.7	7.4	10.3	3.8	4.2	8.0	2.9	100.0%
Clergyman	38.9%	18.1	2.9	2.4	10.7	2.9	7.8	13.3	3.0	100.0%
Elem-Second.Schools	0.4%	1.4	9.3	15.7	44.8	9.4	8.3	9.2	1.5	100.0%
College Teacher	0.4%	0.2	3.5	12.3	53.4	15.8	9.5	3.3	1.6	100.0%
Salesman	8.9%	8.2	9.9	6.5	19.1	10.4	16.0	20.0	1.0	100.0%
Social Serv. Worker	2.1%	6.6	11.2	5.5	34.4	10.9	11.2	17.8	0.3	100.0%
Medical Worker	27.5%	10.8	3.9	1.9	14.6	8.9	5.1	19.0	8.3	100.0%
Scientist-Math.	1.5%	1.7	2.6	3.2	17.5	16.0	19.3	37.3	0.9	100.0%
Fiscal-Office-Mgmt.	4.5%	7.3	10.4	7.6	21.6	12.2	13.1	23.1	0.2	100.0%
Creative	7.9%	7.0	8.6	9.3	29.8	12.6	11.0	11.0	2.8	100.0%
Other	4.1%	4.0	4.6	3.3	13.0	7.7	10.9	51.0	1.5	100.0%

In reviewing the supervisory responsibilities of liberal arts graduates by type of occupation (Table 5-11), alumni in fiscal, office, and management positions have the most subordinate sub-professional employees and are among the most likely to supervise large numbers of professional and managerial workers. Again, as in Table 5-6, it should be noted that the large percentage of alumni not answering dictates caution in interpreting the results. (Table 5-11 is on page 69.)

The occupations of liberal arts graduates are difficult to compare with results from other alumni studies because of different time periods and survey techniques. Many of the national figures developed by the U.S. Bureau of Labor Statistics use definitions too broad to be compared with our figures. For example, among persons reported working as chemists in one set of BLS statistics, only 69 percent were college graduates.(2)

One roughly comparable study that was made by the Bureau of Social Science Research (See Table 5-7) is presented in Table 5-12. In contrast

TABLE 5-11

Number of Employees Supervised by Type of Occupation

"How many employees do you directly supervise?"

	Clerical, laboratory and sub-professional							Professional and Managerial						
	None	1-3	4-10	11-20	Over 20	No A.	Total	None	1-3	4-10	11-20	Over 20	No A	Total
All Graduates	35.5%	30.4	12.9	3.4	5.8	12.0	100.0%	42.4%	15.4	9.7	2.9	4.4	25.2	100.0%
Type of Occupation														
Lawyer	17.7%	65.6	8.8	1.6	0.5	5.8	100.0%	40.1%	19.0	4.8	0.7	0.8	34.8	100.0%
Clergyman	40.4%	39.2	9.5	2.1	1.7	7.1	100.0%	48.2%	16.2	4.0	0.7	1.4	29.5	100.0%
Elem-Second. Teach.	61.6%	10.6	7.6	1.8	3.0	15.4	100.0%	60.1%	5.6	6.1	5.1	9.0	14.2	100.0%
College Teacher	45.7%	31.0	9.3	2.1	3.9	8.0	100.0%	54.3%	12.3	7.0	3.2	4.0	19.2	100.0%
Salesman	48.9%	25.9	10.2	2.1	2.1	10.8	100.0%	53.9%	12.9	7.6	1.7	2.5	21.4	100.0%
Social Serv. Worker	33.3%	40.1	13.4	2.7	2.3	8.2	100.0%	40.8%	21.6	15.3	2.1	2.7	17.5	100.0%
Medical Worker	19.4%	41.7	18.2	4.9	6.7	9.1	100.0%	29.7%	21.8	9.2	2.1	2.3	34.9	100.0%
Scientist-Math.	35.7%	37.3	14.2	2.5	3.4	6.9	100.0%	44.5%	18.7	9.4	2.2	2.0	23.2	100.0%
Fis-Off-Mgt.	20.4%	26.9	20.2	7.7	13.9	10.9	100.0%	28.7%	19.5	14.8	4.3	7.1	25.6	100.0%
Creative Worker	36.6%	31.5	11.7	3.0	3.7	13.5	100.0%	43.1%	15.6	12.8	2.8	3.0	22.7	100.0%
Other	34.3%	24.9	14.3	3.4	11.7	11.4	100.0%	38.7%	15.4	14.7	3.9	7.5	19.8	100.0%

TABLE 5-12

Occupations of Liberal Arts Graduates and Graduates from All Fields

Occupation	Male Liberal Arts Graduates (5 years after graduation only)	Male Graduates from All Fields (2 years after graduation only)
Lawyer	6.1%	--
Clergyman	3.2	2.1%
Elem-Second. Teach.	12.7	21.4
College Teacher	3.2	3.1
Salesman	8.8	8.0
Social Serv. Worker	4.3	2.3
Medical Worker	8.1	3.5
Scientist-Math.	11.9	5.4
Fiscal-Office-Mgmt.	15.4	23.6
Creative Worker	3.0	1.3
Engineers	--	19.1
Other and no answer	23.3	10.2
Totals	100.0%	100.0%

Sources of data:
Liberal arts: This study, by classes.
All fields: Two Years After the College Degree, op. cit., p. 46-47.

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to the cross-sectional group, liberal arts alumni are found more frequently in science and mathematics, in sales, and in creative fields, and less often in elementary and secondary teaching, in fiscal, office, and management positions, and, of course, in engineering. Since the BSSR study questioned alumni only two years after graduation, it must be assumed that many students were still completing advanced education. Accurate comparisons were thus not possible regarding law, college teaching, and medical fields.

Alumni Earnings

As Becker has pointed out, it is impossible to relate income directly to differences in education received.(3) No study is likely to compensate entirely for such key variables as native intelligence, aptitude for work, cultural background, and family-encouraged motivation. Becker estimates that college graduates receive a return of from 10 to 12 percent per annum on their investment in a college education, but this finding is biased, of course, by the effect of general ability upon earnings.(4)

Even salary figures themselves may be misleading. For example, the $7,000 per year earned by a clergyman does not reflect his car allowance, the donated manse, and possible additional income from performing special services. Equally distorted may be the use of the raw salary of $50,000 for the business executive who has to live in an expensive neighborhood, belong to appropriate clubs and entertain freely at them, contribute to civic and political activities, and yet pay a third or more of his income in taxes. Furthermore, job pressure or lack of tenure affect the worth of any position. In speaking to his faculty colleagues, Horn said:

> The time is coming when a teacher cannot command the salary of a Madison Avenue advertising executive for an academic year and at the same time be guaranteed the security that no one in any other line of work enjoys.(5)

A final consideration is non-salary income from job-related sources (bonuses, consulting fees, etc.) which may influence choice of occupation and may not be indicated on straight salary surveys. Because of such considerations straight, salary figures must be used with some allowance for "windage."

In studying the salaries of liberal arts alumni, it is obvious that earnings are closely related to year of graduation (Table 5-13). Whereas only 16 percent of the 1958 graduates earned $10,000 or more, comparable figures for 1953 and 1948 graduates were 43 percent and 61 percent.

TABLE 5-13

Current Annual Salary Levels by Year of Graduation

"What is your current annual salary in your present position?"

		Year of Graduation		
Annual Salary	All Graduates	1948	1953	1958
Under $4000	2.9%	1.4%	1.7%	5.4%
4000-5999	8.1	3.7	6.3	13.9
6000-7999	20.4	10.6	19.0	30.9
8000-9999	19.2	15.4	22.4	19.9
10,000-11,999	13.8	16.3	16.3	8.9
12,000-14,999	11.1	16.5	12.6	4.3
15,000-17,999	5.6	10.0	5.9	1.2
18,000-20,999	3.6	6.7	3.6	0.6
21,000-24,999	1.2	2.7	0.9	0.0
25,000 and over	4.1	8.5	3.4	0.7
No answer	10.0	8.2	7.9	14.2
Total	100.0%	100.0%	100.0%	100.0%

By type of employer, the highest earnings are received by graduates employed in private non-manufacturing, followed by those in private manufacturing and research organizations and institutes (Table 5-14, page 73). (Agriculture shows the largest percentages in both the lowest and highest salary brackets, in part the result of the small size of the agriculture sample). The lowest salaries are listed by employees of elementary and secondary schools and of hospitals, churches, and clinics.

TABLE 5-14

Current Annual Salaries by Type of Employer

"What is your current annual salary in your present position?"

	Under $6000	$6000-9000	$10,000-14,999	$15,000-20,999	$21,000 & over	No Answer	Total
All Graduates	11.0%	39.6	24.9	9.2	5.3	10.0	100.0%
Type of Employer							
Private Manufactur.	2.7%	36.6	39.8	13.6	5.6	1.7	100.0%
Private Non-Manufact.	6.1%	33.5	26.5	16.8	11.7	5.4	100.0%
Agriculture	27.0%	27.0	10.8	10.8	16.2	8.2	100.0%
Elem-Second. Schools	21.7%	64.0	11.0	0.5	0.5	2.3	100.0%
Colleges-Universities	13.3%	54.4	24.8	3.9	0.7	2.9	100.0%
U.S. Military Service	6.0%	56.8	32.2	1.5	0.4	3.1	100.0%
Federal Government	5.5%	48.9	38.2	5.8	0.2	1.4	100.0%
State-Local Govt.	5.5%	48.9	38.2	5.8	0.2	1.4	100.0%
Research Organiz.	6.3%	31.6	42.1	14.0	3.9	2.1	100.0%
Hospital-Church Clin.	43.0%	35.0	9.8	3.7	4.6	3.9	100.0%

For the clearest picture of salary distinctions by type of employer it is necessary to look at data based on alumni 15 years after college. Here, little bias exists because of short-term military service or of longer periods in graduate or professional study. Excluding agriculture, the highest earnings are reported by those employed in private manufacturing and non-manufacturing and in research organizations and institutes (Table 5-15). The lowest salaries are earned by graduates working for elementary and secondary schools and for hospitals, churches, and clinics. (Table 5-15 is on page 73.)

Earnings by occupations show that medical workers, salesmen, lawyers, and fiscal, office, and management workers are the most likely to be in the top earnings brackets (Table 5-16). In the lowest salary brackets are the clergy and elementary and secondary teachers. Interestingly enough, many medical workers also are in the lowest salary classification, probably reflecting the very low incomes of those still in internship and residency. (Table 5-16 is on page 73.)

Table 5-17 compares the salaries of alumni five and fifteen years after college. Once again, medical workers display low salaries five years after graduation, as do lawyers. For medical workers in the 15 year group, however, half report incomes of $21,000 a year or more. Clergymen report the lowest salaries of all occupations at both stages of their careers. Despite the publicized earnings of scientists and mathematicians they earn less 15 years after college than do salesmen, fiscal, office, and management workers, and even creative workers. (Table 5-17 is on page 74.)

TABLE 5-15

Current Annual Salary by Type of Employer
(1948 graduates only)

"What is your current annual salary in your present position?"

	Under $6000	$6000-9999	$10,000-14,999	$15,000-20,999	$21,000 & over	No Answer	Total
1948 Graduates	5.1%	26.0	32.8	16.7	11.2	8.2	100.0%
Type of Employer							
Private Manufactur.	0.9%	18.7	41.9	25.1	12.0	1.4	100.0%
Private Non-Manufact.	2.7%	16.6	28.5	24.6	20.9	6.7	100.0%
Agriculture	13.3%	26.6	20.0	6.7	26.7	6.7	100.0%
Elem-Second. Schools	11.5%	55.7	28.6	1.1	0.6	2.5	100.0%
Colleges-Univ.	4.2%	44.2	40.3	7.9	1.7	1.7	100.0%
U.S. Mil.	4.8%	16.1	67.7	9.7	--	1.7	100.0%
Federal Government	1.1%	24.7	57.9	14.2	0.5	1.6	100.0%
State-Local. Govt.	1.1%	24.7	57.9	14.2	0.5	1.6	100.0%
Research Organiz.	2.5%	8.8	40.0	35.0	11.3	2.4	100.0%
Hospital-Church Clin.	23.6%	38.9	15.7	5.4	11.4	5.0	100.0%

TABLE 5-16

Current Annual Salaries by Type of Occupation

"What is your current annual salary in your present position?"

	Under $6000	$6000-9999	$10,000-14,999	$15,000-20,999	$21,000 & over	No Answer	Total
All Graduates	11.0%	39.6	24.9	9.2	5.3	10.0	100.0%
Type of Occupation							
Lawyer	5.1%	30.2	31.0	18.0	9.2	6.5	100.0%
Clergyman	47.8%	45.4	4.0	0.2	--	2.6	100.0%
Elem-Second. Teach.	22.1%	62.2	11.8	0.7	0.5	2.7	100.0%
College Teacher	10.2%	56.8	25.9	3.7	0.7	2.7	100.0%
Salesman	3.4%	38.3	32.1	14.0	9.1	3.1	100.0%
Social Serv. Worker	9.8%	57.6	25.7	4.3	1.4	1.2	100.0%
Medical Worker	21.2%	17.8	15.0	19.2	20.7	6.1	100.0%
Scientist-Math.	4.2%	39.3	43.8	10.0	1.3	1.4	100.0%
Fiscal-Office-Mgmt.	7.7%	41.7	27.1	12.8	7.8	2.9	100.0%
Creative Worker	11.2%	36.6	31.5	11.4	5.1	4.2	100.0%
Other	7.0%	48.0	33.3	7.2	2.2	2.3	100.0%

TABLE 5-17

Current Annual Salaries by Type of Occupation and Year of Graduation (1948 and 1958 graduates only)

	Under $6000	$6000-9999	$10,000-14,999	$15,000-20,999	$21,000 & over	No Answer	Total
All Graduates							
1948	5.1%	26.0	32.8	16.7	11.2	8.2	100.0%
1958	19.3%	50.8	13.2	1.8	0.7	14.2	100.0%
Occupation							
Lawyer							
1948	0.9%	4.8	29.0	36.4	21.0	7.9	100.0%
1958	13.3	56.6	19.5	3.5	0.9	6.2	100.0%
Clergyman							
1948	32.2%	51.4	10.3	0.7	--	5.4	100.0%
1958	69.3%	29.1	--	--	--	1.6	100.0%
Elem-Second. Teach							
1948	12.7%	52.7	29.0	2.0	0.5	3.1	100.0%
1958	38.6%	56.7	1.1	--	0.2	3.4	100.0%
College Teacher							
1948	3.9%	47.8	39.3	6.2	1.2	1.6	100.0%
1958	26.9%	59.7	6.7	0.8	--	5.9	100.0%
Salesman							
1948	1.1%	22.0	36.4	21.5	14.1	4.9	100.0%
1958	6.2%	60.9	22.8	5.2	2.1	2.8	100.0%
Social Serv. Worker							
1948	1.5%	37.2	44.5	11.7	2.9	2.2	100.0%
1958	16.2%	74.8	5.7	--	0.6	0.7	100.0%
Medical Worker							
1948	4.4%	1.1	9.2	24.9	50.9	9.5	100.0%
1958	46.3%	36.3	10.3	2.7	0.3	4.1	100.0%
Scientist-Math.							
1948	1.4%	22.2	48.7	23.1	3.1	1.5	100.0%
1958	9.1%	58.9	28.6	1.1	--	2.3	100.0%
Fiscal-Office-Mgmt.							
1948	3.1%	22.1	35.2	20.9	15.3	3.3	100.0%
1958	15.6	62.6	14.4	3.3	1.9	2.2	100.0%
Creative Worker							
1948	4.3%	20.9	42.3	19.0	9.2	4.3	100.0%
1958	25.4	50.9	14.6	2.7	0.9	5.5	100.0%

Income seems closely related to amount of supervision assumed on the job (Table 5-18). While some alumni with high incomes supervise few employees, there is a definite tendency for those with large numbers of subordinates to appear in the highest earnings brackets. Overall, a third of the graduates supervise no one, another third supervise from one to three employees, and the final third supervise four or more employees. This final third reports the highest average income. The tendency would be even more pronounced if self-employed professionals (doctors, lawyers, etc.) with high incomes and few subordinates were eliminated from the analysis. Again, as with earlier tables dealing with number of employees supervised, the large percentage of respondents not answering must be noted.

TABLE 5-18

Current Annual Salaries by Type and Number of Employees Supervised
(1948 Graduates only)

"How many employees do you directly supervise?"

Clerical, Laboratory and Sub-Professional Employees

	None	1-3	4-10	11-20	Over 20	No Answer	Total
1948 Graduates	25.0%	34.1	16.9	4.4	8.2	11.4	100.0%
Current Salaries							
Under $6000	53.2%	27.5	5.8	2.1	0.8	10.6	100.0%
6000-9999	39.3%	29.5	14.3	2.3	3.1	11.5	100.0%
10,000-14,999	20.4%	36.1	20.2	5.2	8.6	9.5	100.0%
15,000-20,999	12.3%	40.9	15.9	5.6	14.3	11.0	100.0%
21,000 and over	10.6%	35.2	21.0	6.1	15.8	11.3	100.0%

Professional and Managerial Employees

	None	1-3	4-10	11-20	Over 20	No Answer	Total
1948 Graduates	31.6%	18.5	13.2	4.6	7.1	25.0	100.0%
Current Salaries							
Under $6000	54.5%	8.7	2.5	2.0	4.9	27.4	100.0%
6000-9999	43.8%	15.1	8.3	3.3	4.1	25.4	100.0%
10,000-14,999	28.9%	20.0	14.7	5.3	7.9	23.2	100.0%
15,000-20,999	20.3%	23.1	29.1	5.2	9.6	21.7	100.0%
21,000 and over	14.6%	24.4	18.6	8.5	13.9	20.0	100.0%

How do salaries of liberal arts alumni compare with earnings of their classmates in specialized and technical fields? Using somewhat comparable figures, liberal arts alumni may be contrasted with engineers for similar periods since graduation (Table 5-19).(6)

TABLE 5-19

Comparative Salaries for Liberal Arts and Engineering Graduates by Years Since Graduation

Years Since Graduation	Liberal Arts Grads	Graduates Currently Employed in Engineering
Five	$8,000	$9,500
Ten	$10,870	$11,425
Fifteen	$13,050	$12,800

Sources of data:
Liberal arts: This study, by classes (years since graduation computed from 1963)
Engineering: Professional Income of Engineers, 1964, op. cit., p. 13. (years since graduation computed from 1964)

These figures, and those from related studies,(7) give rise to a "Tortoise and Hare" theory about liberal arts alumni: they start out at lower salaries than those of graduates from other fields, but in 10 or 15 years they catch up.

Summary

The liberal arts alumni in our sample are fairly evenly distributed between the private and public sectors of the economy. Those in the public sectors are most frequently employed in educational institutions or by a governmental agency. While our state and local governments employ half again as many people as do the federal agencies, more of the liberal arts alumni are employed with the federal government (5.5 percent) than with state and local government (4.1 percent). One out of seven is self-employed, a rate comparable to the national rate.

Liberal arts graduates are affiliated with large organizations. Two-thirds work for organizations with over 100 employees, and a fourth of the most recent graduates are employed in organizations of over 10,000 employees. Despite their association with large institutions, our respondents tend to supervise relatively few employees; 36 percent supervise no sub-professional employees and 42 percent supervise no professional or managerial employees.

By occupation, the greatest numbers of liberal arts alumni are in fiscal, office, and management categories and in teaching. The traditional liberal arts occupations--law, clergy, and medicine--account for 20 percent of today's alumni.

Salary is influenced sharply by occupation. The highest incomes are reported by medical workers, lawyers, salesmen, and fiscal, office, and management workers. In the low salary brackets are clergymen, elementary and secondary teachers, and those medical workers still in internships and residencies. Despite the recent public attention given them, scientists and mathematicians are not among the highest-paid graduates.

Salaries are somewhat related to number of employees supervised and directly related to the length of time since graduation. Only 16 percent of the 1958 graduates receive salaries over $10,000, whereas 43 percent of the 1953 graduates and 61 percent of the 1948 graduates receive salaries of over $10,000.

Chapter 6: Career Patterns of Liberal Arts Alumni

To learn how our sample of liberal arts graduates conducted their careers, this chapter examines their selection of occupational goals, job changes, the extent of unemployment during their career, influence of military service, and their geographical mobility. An evaluation of vocational guidance and job placement assistance also is provided.

Selection of Career Goals

Despite the fact that the survey was conducted five years after the youngest graduating class left college, 13 percent of the respondents report that they have not selected a career goal (Table 6-1). The older alumni are somewhat less likely to have a goal than the more recent graduates--a result which perhaps reflects the uncertainty accompanying greater knowledge and longer opportunity for frustration or disillusionment about initial choices of careers. Graduates with high academic records are somewhat more likely to have a career objective. By occupation, the clearest sense of career direction is shown by medical workers, college and university professors, and lawyers. The greatest career uncertainty is displayed by fiscal, office, and management workers, salesmen, and scientists and mathematicians. While not shown, 18 percent of the alumni with only a bachelor's degree have not yet selected a career goal, contrasted to 6 percent of those with a doctor's degree. No particular distinctions are found by undergraduate major or by type of employer.

Sixteen percent of the respondents had chosen a career goal before entering college, and an additional 23 percent made such a choice during their undergraduate years (Table 6-2). More than half of the graduates, therefore, finished college before selecting their current career objective. Responses from older alumni show that career objectives are still being developed (or perhaps changed from earlier and unstatisfactory choices) long after college --among those who finished undergraduate studies fifteen years prior to the survey, 13 percent report they selected a career goal over six years after leaving school. (Table 6-2 is on page 80.)

How did the alumni feel about not selecting a permanent career goal until after college? Some were concerned, as indicated in these comments:

> Select a career as early as possible in your undergraduate work and explore all possibilities in promoting that career.
> (University of Southern California)

> My main problem stems from failure to accept my own advice and to work on career choice and preparation while in college.
> (Bowdoin College)

Typical of the majority, who deferred career choice until after graduation, were these comments:

TABLE 6-1

Existence of a Career Goal by Year of Graduation, Academic Record, and Type of Occupation

	No	Yes, working toward it	Yes, but not yet working toward it	No Answer	Total
All Graduates	12.6%	80.1	4.9	2.4	100.0%
Year of Graduation					
1948	15.0%	78.2	3.4	3.4	100.0%
1953	12.1%	81.9	4.0	2.0	100.0%
1958	10.9%	80.1	7.1	1.9	100.0%
Academic Record					
High	11.1%	83.2	3.6	2.1	100.0%
Average	12.3%	81.0	4.7	2.0	100.0%
Low	14.2%	76.7	6.2	2.9	100.0%
Type of Occupation					
Lawyer	6.4%	89.7	2.2	1.7	100.0%
Clergyman	11.6%	84.3	1.2	2.9	100.0%
Elem-Second. Teach.	10.4%	81.6	5.4	2.6	100.0%
College Teacher	6.0%	90.2	2.5	1.3	100.0%
Salesman	17.4%	73.7	6.3	2.6	100.0%
Social Serv. Worker	9.3%	84.3	5.2	1.2	100.0%
Medical Worker	3.9%	91.2	2.2	2.7	100.0%
Scientist-Math.	15.7%	75.9	6.4	2.0	100.0%
Fiscal-Office-Mgmt.	18.3%	74.2	5.1	2.4	100.0%
Creative Worker	13.1%	80.7	4.7	1.5	100.0%
Other	16.5%	74.7	7.0	1.8	100.0%

> I would advise today's students to avoid making a fixed decision on careers until they have been out of college for a for a year or two. Many occupations which they never considered will be open to them.
>
> (Tulane University)

> I erred in making an unwise career choice and wasted my college years too narrowly preparing for them.
>
> (Tufts University)

TABLE 6-2

Point in Life When Career Goal was Selected by Year of Graduation

"If you have selected an occupation goal or career objective, when did you make this selection?"

		Year of Graduation		
	All Graduates	1948	1953	1958
Before entering college	15.8%	14.6%	16.5%	16.1%
During first three years of college	14.4	12.7	14.1	16.4
During senior year	8.7	8.7	7.0	10.3
During graduate school	9.3	7.9	9.6	10.3
During first three years after leaving school	19.2	14.5	17.9	24.9
Before four and six years after leaving school	10.3	9.6	12.7	8.7
Over six years after leaving school	7.0	13.4	7.4	0.3
No answer or other*	15.3	18.6	14.8	13.0
Total	100.0%	100.0%	100.0%	100.0%

* Some respondents specified "during military service" but did not indicate years before or after college.

> I am sorry that I did not understand or appreciate the real values of a liberal education. I was too concerned with preparing myself for a career. This was done later in professional school.
>
> (University of Michigan)

Of those alumni who went on to graduate or professional school, 81 percent had a "fairly clear idea" of their vocational goal before they began graduate training (Table 6-3). Science and mathematics majors and students with high academic records were slightly more likely to have a clear idea of their vocational goal. (Table 6-3 is on page 81.)

Vocational Guidance and Placement Assistance

One goal of this survey was to document the role of college counseling and placement services. During service as Director of Placement at the

TABLE 6-3

Clarity of Career Goals Among Graduate Students by Type of Major and Academic Record

(Only those alumni who attended graduate or professional school)

Agreement or disagreement with the statement. . . "I entered graduate school with a fairly clear idea of my vocational goal."

	Strongly Agree	Agree	Disagree	Disagree	No Opinion	Total
All Graduates	43.2%	38.1	12.3	2.8	3.6	100.0%
Type of Major						
Science-Mathematics	48.2%	37.2	9.6	1.9	3.1	100.0%
Social Sciences	40.2%	37.7	14.5	3.4	4.2	100.0%
Humanities	40.5%	40.4	12.8	2.8	3.5	100.0%
Academic Record						
High	45.6%	37.8	11.8	2.3	2.5	100.0%
Average	42.5%	39.0	12.5	2.5	3.5	100.0%
Low	41.9%	39.2	12.1	2.5	4.3	100.0%

University of California at Berkeley, the author became impressed with the resources for vocational assistance on the campus of today. How are these services rated by alumni?

The respondents indicate that they made rather limited use of college resources in the area of vocational guidance (Table 6-4). The resource most often used and found to be helpful was the faculty, but even here less than half the graduates had actually sought and obtained helpful advice from faculty members. Only one in four alumni had found vocational guidance tests helpful, and only one in five alumni had been aided by individual guidance counseling. Only one in six had been helped in career selection by a college placement service. (Some placement services, it should be noted, make no pretense of offering vocational guidance but limit their function strictly to job placement.) Except for faculty members, the most helpful source of advice about vocation was the non-professional assistance available from one's own family.(1)

Despite the rapid development and improvement of college placement offices since the end of World War II, relatively few of the liberal arts alumni credit them with much placement assistance (Table 6-5). Direct personal application was the most common method of obtaining positions. For all but the first job, college placement offices were listed as less helpful than personal and professional contacts and private employment agencies. As the number of job changes rose, direct contact by the prospective new employer became an increasingly important factor. State employment offices were, consistently, the least useful of all the options provided. (Table 6-5 is on page 83.)

TABLE 6-4

Sources of Assistance in Career Selection

"While you were in college, did you make use of the following sources of career assistance and how helpful was each in aiding you to select an occupation?"

	Didn't use	Used, of no value	Used, somewhat helpful	Used, very helpful	No answer	Total
Vocational guidance tests	53.7%	18.7	21.3	3.5	2.8	100.0%
Individual vocational counseling	62.0%	13.9	16.7	4.1	3.3	100.0%
Occupational reading materials	50.2%	13.3	27.3	5.2	4.0	100.0%
Advice from family	39.2%	19.0	29.5	9.3	3.0	100.0%
Advice from potential employers	59.0%	8.1	20.4	8.6	3.9	100.0%
Advice from faculty members	36.9%	13.1	32.6	14.1	3.3	100.0%
Part-time and summer jobs	54.1%	12.8	17.3	11.7	4.1	100.0%
College placement services	63.5%	16.2	11.3	4.7	4.3	100.0%

In defense of the college placement office, the high percentage of alumni who went on for graduate study may not have registered for any assistance. Also, many who obtained their first job through "direct personal application" may have first learned of the opportunity from one of those crowded placement office bulletin boards, or those who said the "employer contacted me directly" may have been referring to contact within the formal campus interview program. Finally, the alumni were speaking of placement offices fifteen to five years earlier and improvements in the field have been obvious.

The respondents volunteered many comments about how the college could have helped them more with career assistance. The following are illustrative:

> A better job of career counseling could be done by the liberal arts college. I wasted some time which might have been spent in more constructive pursuits.
> (Colgate University)

> Better vocational counseling during college would have raised me to an equivalent economic level five years ago.
> (Brooklyn College)

TABLE 6-5

Sources of Assistance in Job Placement

"Which was the single most helpful source responsible for your obtaining each of the jobs which you have held?"

	First Job	Second Job	Third Job	Fourth Job	Fifth Job
College placement office	12.5%	5.4%	3.6%	3.4%	3.6%
Faculty adviser or professor	8.4	4.9	4.1	2.6	2.7
Direct personal application	36.9	36.8	36.7	36.1	34.0
Private employment agencies	4.2	5.6	5.7	5.5	4.6
State employment services	1.4	1.4	1.7	1.8	2.2
Family contacts	9.0	6.4	4.3	2.9	2.4
Personal friends	8.4	12.0	12.0	13.2	11.5
Want ads	2.4	4.3	4.6	4.9	5.3
Professional societies or contacts	4.3	6.3	7.6	8.8	9.3
New employer contacted me directly	6.3	12.3	16.2	17.2	19.5
Other	6.2	4.6	3.4	3.4	4.9
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Number of Cases	(10,381)	(7164)	(4185)	(2207)	(1065)

> My college guidance and placement assistance was not strong enough so that I could find a worthwhile job.
>
> (Duke University)

> We need better placement at both undergraduate and graduate levels. We need to expand the placement staffs so that the office can actively search out employers instead of the current "wait and see" attitude toward job development.
>
> (University of California, Los Angeles)

One of the two general questions in the survey questionnaire which invited general comment was about career selection. It asked: "What advice would you give today's liberal arts students about selecting their careers?" The following comments illustrate the wide range and the differing viewpoints of the respondents' replies:

> Make it a point to get to know the college professors in your field and benefit from their occupational and education experience and knowledge. Also, talk with prospective employers before going to find out what qualities they are seeking in employees.
> (Montana State University)

> Think of a dozen jobs you might like and go watch people performing them. Ask them questions about their work.
> (University of Arkansas)

> Try to imagine what a typical day in 1975 will be like for you.
> (St. Anselm's College)

> Plan a career area instead of a specific career.
> (Concordia College)

> Find the field which has the fewest graduates and become the best in that small area.
> (University of Minnesota)

> Be happy with a compromise career. Intellectual pursuits do not bring financial rewards per se. Financial obligations, such as marriage, often do not permit self-dedication to the world of truth and beauty.
> (University of Dayton)

> Obtain summer work in your field of interest and not in resorts or national parks.
> (Ohio State University)

> Don't always consider money first, 30 to 50 years in a job is a long time to hate it.
> (Colgate University)

> I grew up in the Depression. After World War II, I wanted to earn dollars, lots of them. I did: and it was and is awful.
> (Stanford University)

> Forget what everyone else is doing and follow your own preferences.
> (University of California)

> Aim for the stars, but don't cry if you hit the moon.
> (Fordham University)

Alternative Job Opportunities

Over half of the alumni report that they had only one or two "solid job opportunities" to choose among when they accepted their current position (Table 6-6). Offers of five or more jobs, however, are reported by 11 percent of the alumni, ranging from 10 percent of the social sciences and humanities majors to 15 percent of the science and mathematics majors. Only slight variations are noted by year of graduation, academic record, and quality of college.

TABLE 6-6

Number of Job Offers for Current Position by Year of Graduation, Academic Record, Quality of College and Type of Major

"Approximately how many 'solid job opportunities' did you have at the time you accepted your. . . current job?"

	One	Two	Three or four	Five or more	No answer	Total
All Graduates	37.3%	19.0	23.2	11.3	9.2	100.0%
Year of Graduation						
1948	38.7%	19.5	22.9	10.7	8.2	100.0%
1953	37.5%	18.7	25.2	11.2	7.4	100.0%
1958	35.8%	18.8	21.7	11.9	11.8	100.0%
Academic Record						
High	36.0%	18.4	24.2	10.6	10.8	100.0%
Average	37.0%	19.4	22.7	11.5	9.4	100.0%
Low	37.0%	20.0	23.8	11.3	7.9	100.0%
Quality of College						
High	38.4%	18.9	23.5	10.2	9.0	100.0%
Medium	37.2%	18.6	23.3	11.2	9.7	100.0%
Low	36.8%	19.6	23.0	12.1	8.5	100.0%
Type of Major						
Science and Math.	34.4%	17.5	21.7	14.6	11.8	100.0%
Social Sciences	38.6%	19.6	24.2	9.5	8.1	100.0%
Humanities	39.3%	19.9	23.4	10.0	7.4	100.0%

What do liberal arts graduates say about the difficulties of obtaining positions? Two comments are typical:

> One employer commented to me, "you have a fine background but what are you going to do with it and how does it apply to your possible employment with us?"
> (New York University)

> Although I graduated near the top of a class of 1,700, not one firm contacted me about employment while mediocre engineers received at least a dozen offers.
> (University of Southern California)

Job Changes During Career

The number of job changes during the liberal arts graduates' careers varies markedly by occupational fields and tends to concentrate in the early years after graduation (Table 6-7). Five years after receiving their undergraduate degrees, 56 percent of the alumni had changed employers at least once. Fifteen years after graduation, 76 percent had changed initial employers.

TABLE 6-7

Number of Different Employing Organizations by Year of Graduation and Current Occupation (excluding military services)

	One	Two	Three	Four	Five	Six or Seven	Eight or nine	No Answer	Total
All Graduates	29.3%	28.4	19.8	11.5	5.2	3.3	0.8	1.7	100.0%
Year of Graduation									
1948	23.1%	23.4	21.4	15.6	8.2	6.0	1.4	0.9	100.0%
1953	24.0%	28.3	23.3	14.1	5.7	3.4	0.6	0.6	100.0%
1958	40.4%	33.2	14.9	5.0	1.8	0.7	0.3	3.7	100.0%
Current Occupation									
Lawyer	31.0%	29.2	21.9	9.7	4.2	2.8	0.1	1.1	100.0%
Clergyman	35.2%	27.3	20.4	10.2	3.6	2.8	0.2	0.3	100.0%
El-Sec. T.	33.9%	27.0	18.7	11.9	5.0	2.7	0.4	0.4	100.0%
College T.	2.1%	31.5	31.0	19.3	8.4	6.5	1.2	-	100.0%
Salesman	22.1%	31.0	22.6	13.5	5.4	4.1	1.2	0.1	100.0%
Social Ser.	19.6%	27.8	22.3	15.7	9.8	3.6	0.7	0.5	100.0%
Medical	36.3%	31.0	14.8	11.0	4.1	1.7	0.2	0.9	100.0%
Sci-Math.	36.4%	27.9	19.3	9.0	4.6	2.3	0.5	-	100.0%
Fis-Off-Mgt	28.0%	30.6	19.8	12.1	5.8	3.0	0.7	-	100.0%
Creative	18.7%	22.4	21.9	15.2	9.3	10.5	1.9	0.1	100.0%
Other	37.3%	28.6	18.8	8.5	3.0	2.9	0.9	-	100.0%

The most mobile of all occupations is college teaching; less than two percent are still with their first employer, and two-thirds have worked for three or more organizations. This reflects the facts that many college teachers begin their careers while completing graduate study, advancements often result from job changes, and little stigma is attached to switching employers. Creative workers are also highly mobile. Among the least mobile are medical workers, scientists and mathematicians, clergymen, lawyers, and elementary and secondary teachers.

A study also was made of the number of different job titles held by the graduates during their careers (Table 6-8). (As an illustration, only one job title would have been held by the salesman who remained in that role despite several changes of employers. The graduate who advanced from salesman to purchasing agent to vice-president for international operations would have held three job titles, even though he remained with the same employing organization.) The results show, not surprisingly, that those graduates who have been in the work force the longest have held the most job titles--19 percent of the 1948 graduates have held three or more different job titles, whereas only 9 percent of the 1958 graduates have held three or more titles. More than half of all the graduates have remained in the same job title throughout their careers.

TABLE 6-8

Number of Job Titles Held During Career by Year of Graduation

	Number of Job Titles					
	One	Two	Three	Four and more	No answer	Total
All Graduates	52.7%	30.0	11.6	4.3	1.4	100.0%
Year of Graduation						
1948	49.3%	31.7	13.0	5.8	0.2	100.0%
1953	48.1%	31.9	14.3	5.3	0.4	100.0%
1958	60.0%	26.7	7.5	1.8	3.4	100.0%

The respondents indicate that their chief motivation for changing positions is a desire for better opportunities for advancement rather than a wish to earn more money. While 12 percent say their last jobs were terminated because the employer had to cut back staff or to close his business, only 1.3 percent report being actually "fired" for unsuitability.

Alumni made several pertinent comments regarding job-changing:

> I would advise a young graduate to change jobs frequently

> (every two or three years) in the early stages of his career. Broad experience is essential to success and this can not be achieved by staying with the same firm indefinitely.
>
> (Union College)

> Be willing to change jobs to find what you like and where you fit. Be careful about taking a job "just for now." Plan and stick to it.
>
> (Stanford University)

> The liberal arts graduate should not begin his first job with the intention of remaining with the particular employer or that particular career.
>
> (Rutgers University)

Unemployment since Graduation

More than two-thirds of the 11,000 liberal arts alumni report no experience with unemployment since graduation (Table 6-9). Eighteen percent have

TABLE 6-9

Extent of Unemployment Since Graduation by Year of Graduation, Academic Record, and Type of Major

"Since receiving your bachelor's degree, approximately how long have you been unemployed or between jobs?"

	None	One month	Two months	Three or four months	Five to Eleven months	Twelve months and more	No Answer	Total
All Graduates	66.1%	6.3	6.4	8.2	6.7	2.8	3.5	100.0%
Year of Graduation								
1948	68.2%	5.6	5.7	8.0	7.6	3.1	1.8	100.0%
1953	66.3%	6.8	6.6	8.6	6.1	2.9	2.7	100.0%
1958	63.9%	6.5	6.8	7.9	6.3	2.4	6.2	100.0%
Academic Record								
High	75.0%	5.1	3.9	4.6	4.1	2.1	5.2	100.0%
Average	67.0%	6.4	6.3	7.8	6.5	2.4	3.6	100.0%
Low	62.7%	6.7	7.7	9.7	7.4	2.8	3.0	100.0%
Type of Major								
Science-Math.	70.8%	5.5	6.1	6.4	5.1	1.8	4.3	100.0%
Soc. Sci.	65.1%	7.0	6.9	8.6	7.0	2.5	2.9	100.0%
Humanities	60.5%	6.2	5.6	10.0	8,7	5.0	4.0	100.0%

been out of work for three or more months and 10 percent for five or more months. For some, these may have been months anticipating military service or waiting for graduate study to begin. The most likely to report periods of unemployment are those with the poorest academic records and those who majored in the humanities.

Military Service

Military service has had a pronounced effect upon the lives of alumni for the past several decades. Three-fourths of the graduates have served in the armed forces, ranging from 88 percent of the 1948 graduates to 62 percent of the 1958 graduates (Table 6-10). Most of the, particularly those who graduated in 1953 and 1958, were in the Army.

TABLE 6-10

Extent and Branch of Military Service by Year of Graduation

	Yes	No	No Answer	Total
All Graduates	74.1%	25.3	0.6	100.0%
Year of Graduation				
1948	88.1%	11.5	0.4	100.0%
1953	73.5%	26.0	0.5	100.0%
1958	61.5%	37.9	0.6	100.0%

Branch of Service
(only those who served)

	Army	Air Force	Navy	Marines	Coast Guard	Other & Foreign	Total
All Graduates	47.8%	20.0	23.4	5.4	0.9	2.5	100.0%
Year of Graduation							
1948	38.6%	22.8	31.2	4.5	0.7	2.2	100.0%
1953	53.4%	18.2	19.0	6.1	0.6	2.7	100.0%
1958	53.8%	18.4	17.9	5.8	1.3	2.8	100.0%

The timing of military service in the lives of graduates varied widely by year of graduation (Table 6-11). Most of the 1948 alumni finished military duty before graduation from college, whereas more than half of the 1953 and 1958 alumni did their military service after college.

Respondents were asked to indicate their highest active duty (not reserve) rank, using the following generally comparable rank designations:

TABLE 6-11

Timing of Military Service by Year of Graduation
(only those who served)

	Timing of Service			
	Before graduation from college	After graduation from college	Both before and after	Total
Year of Graduation				
1948	78.6%	7.0	14.4	100.0%
1953	26.6%	68.6	4.8	100.0%
1958	38.4%	53.4	6.2	100.0%

Private, Seaman, or Airman (second, third class)
Corporal, Petty Officer (third class) or Airman (first class)
Sergeant or Petty Officer (except third class)
Warrant Officer
Second Lieutenant or Ensign
First Lieutenant or Lieutenant (junior grade)
Captain (except Navy) or Lieutenant (senior grade)
Major or Lieutenant Commander
Lieutenant Colonel or Commander or higher

Of those alumni who had served on active duty, 42 percent were privates or corporals (or comparable ranks), 22 percent were higher non-commissioned officers, and 36 percent were commissioned officers.

Community Size and Geographical Location

The liberal arts alumni obviously are affected by the urbanization of the nation. Almost 85 percent of our graduates now live in cities--or suburbs of cities--of 10,000 or more (Table 6-12). A comparison of present communities with those of the respondents' high school days shows a definite migration to the cities and to the suburbs of large metropolitan areas. The number who live in communities of less than 10,000 or in rural areas has declined by almost half. (Table 6-12 is on page 91.)

The graduates were asked to report the geographic regions where they were born, where they graduated from high school, where they lived immediately after college, and where they currently live (see Appendix D for regional breakdowns).

The distribution of alumni by region remains fairly constant for the various stages of life, although balancing shifts in and out may have occurred (Table 6-13). Two noticeable shifts are a decline in the portion living in the Great Lakes and Plains regions and a proportionate increase in residents of the Far West. Twice as many graduates now live in the Far West as were born there. (Table 6-13 is on page 92.)

TABLE 6-12

Type of Community During High School and Now by Year of Graduation

"Which of the following best describes (a) the community in which you grew up when you went to high school and (b) the community in which you now live?"

	Community During High School				Community Now			
	Year of Graduation				Year of Graduation			
	1948	1953	1958	All Grads	1948	1953	1958	All Grad
Suburb of city of over 1,000,000	14.5%	18.4%	19.0%	17.3%	26.4%	26.6%	23.9%	25.6%
Suburb of city of less than 1,000,000	4.1	4.6	5.5	4.7	8.0	7.3	6.9	7.4
City of 500,000 and over	15.0	15.2	14.7	14.9	10.4	12.9	17.2	13.5
City of 100,000 to 499,000	11.2	12.2	11.1	11.5	13.2	12.8	13.6	13.2
City of 10,000 to 99,999	23.4	23.8	23.1	23.4	24.5	23.8	27.9	24.1
City of less than 10,000	19.1	16.1	16.4	17.2	11.5	10.9	8.9	10.4
Farm or open country	11.7	9.1	9.5	10.1	4.2	4.4	4.2	4.2
No Answer	1.0	0.6	0.7	0.9	1.8	1.3	1.5	1.6
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Summary

More than half the graduates completed college before determining upon a career objective. Thirteen percent of the 1948 graduates report that they selected a career goal six years or more after leaving school, and 13 percent of all the respondents report they have not yet chosen a career goal.

Graduates made little use of their schools' formal vocational guidance services. More useful help in selecting career objectives came from faculty members and from their own families. College placement services were reportedly of some help in finding graduates' first jobs, although direct personal application was much more successful in obtaining both the first and all subsequent jobs.

When they accepted their current jobs, more than half of the alumni had only one or two solid job alternatives. However, relatively few liberal arts graduates had much experience with unemployment. Two-thirds of the respondents

TABLE 6-13

Geographical Locations During Various Stages of Life

"Indicate where . . .

	you were born"	you graduated from high school"	you lived immediately after college"	you live now"
New England	8.4%	9.3%	8.5%	7.6%
Mideast	26.9	26.5	24.7	25.1
Great Lakes	22.7	22.5	19.9	19.0
Plains	12.4	10.9	8.4	8.3
Southeast	10.2	10.6	11.7	11.3
Southwest	4.5	4.5	6.0	6.0
Rocky Mountains	3.3	3.4	3.4	3.2
Far West	8.5	10.9	13.9	16.9
Outside U.S.	2.9	0.9	2.9	2.3
No Answer	0.2	0.5	0.6	0.3
Total	100.0%	100.0%	100.0%	100.0%

report no unemployment, only 10 percent say they were unemployed for five or more months, and less than 3 percent, for twelve or more months. Humanities majors and alumni who had poorer academic records are the most likely to report periods of unemployment.

Once they had begun their careers, liberal arts alumni were mobile. Less than 30 percent were still with their original employer at the time of the survey, and over 20 percent had worked for four or more employers by that time. College teachers were the most mobile, less than two percent having remained with their first employer. Among the least mobile were medical workers, scientists and mathematicians, clergymen, lawyers, and elementary and secondary teachers.

While they changed employers frequently, the respondents tended to keep the same job titles. Half the alumni (53 percent) have held only one job title during their careers and another 30 percent have held only two.

Alumni gave a variety of reasons for changing jobs. The most common involved professional or personal advancement. Only 1.3 percent reported they were fired by employers.

Three-fourths of the graduates have served with the armed forces, ranging from 88 percent of the 1948 graduates to 62 percent of the 1958 graduates. Of the graduates who served on active duty, only about a third were commissioned officers.

Most of the graduates (85 percent) live in cities--or suburbs of cities--of 10,000 or more, and they have tended to migrate to large metropolitan areas since their high school days. Geographically, there has been some movement away from the Great Lakes and Plains regions and to the Far West.

Chapter 7: Factors Influencing the Careers of Graduates

The careers of liberal arts graduates may be influenced by many factors, including family background, type of high school and college attended, college academic record, major field of study, graduate training, self-support during college, extra-curricular activities as a student, willingness to sacrifice for the job, and minority group status. This chapter explores each of these factors.

Before exploring these, it is important to repeat the obvious. Unlike many things which depend on a single element, it is impossible to relate career progress to a controlled item or items. Consider, for example, the importance to a career of a personal friend in a strategic position, a chance encounter with a top executive, or the role of an unexpected resignation of a superior. They may contribute more to personal career progress than possession of a Phi Beta Kappa key, evenings spent completing correspondence courses, or maneuvers in office politics.

The importance of personal contact can not be overemphasized. Few obtain jobs or promotions solely on the basis of connections. However, when faced with manpower needs resulting from attrition, new functions, or growth of an organization, top executives usually begin their review of candidates by recalling those whom they know personally.

Despite the role of luck and personal contact, relying upon them is the least effective way to insure career progress. Rather, alumni must exert themselves to prepare for and advance in their careers, while hoping they will receive their share of good fortune.

Family Background

Analysis of the educational backgrounds of the parents of liberal arts alumni shows that 26 percent of the fathers and 16 percent of the mothers are college graduates (Table 7-1). The percentages are somewhat higher for the parents of the more recent alumni. Fathers tend to have both less and more education than mothers: more fathers than mothers terminated their education before high school, and more fathers than mothers received college postgraduate degrees. (Table 7-1 is on page 94.)

The quality of the college attended by the liberal arts graduates is related to the educational level of the parents. Sons of parents who did not attend high school are the most likely to have attended a low-quality college. The percentages of sons attending high-quality institutions climbs steadily as the educational level of the parents rises.

What are the relations between fathers' occupations and those of liberal arts alumni? Chapman observed in the late 1930's, "A generation ago, the selection of an occupation was simple enough . . . 75 percent of the young men followed the occupation of their fathers. Today not more than 25 percent do so."(1)

TABLE 7-1

Parents' Education by Respondents' Year of Graduation and Quality of College

"Please check highest educational attainment of your parents."

	Eighth Grade or less	Some High School	High School Graduate	Some College	College Graduate	Post-Graduate Degree	No Answer	Total
Father's Education								
All Graduates	28.6%	14.2	16.4	14.2	12.0	14.1	0.7	100.0%
Year of Graduation								
1948	32.9%	14.0	15.3	14.5	10.4	11.9	1.0	100.0%
1953	29.1%	14.4	16.3	13.1	12.3	14.2	0.6	100.0%
1958	23.9%	14.2	17.4	14.9	13.1	16.1	0.4	100.0%
Quality of College								
High	12.1%	15.2%	20.5%	21.8%	35.1%	33.9%		
Medium	42.4	45.6	48.1	49.5	45.3	44.3		
Low	45.5	39.2	31.4	28.7	19.6	21.8		
100.0%=	(3108)	(1543)	(1778)	(1540)	(1301)	(1534)		
Mother's Education								
All Graduates	21.2%	15.1	29.2	17.5	13.5		3.6	100.0%
Year of Graduation								
1948	26.5%	15.8	27.2	15.6	11.7	2.2	1.0	100.0%
1953	22.2%	14.2	28.0	18.2	14.0	2.8	0.6	100.0%
1958	15.1%	15.2	32.2	18.6	14.8	3.6	0.5	100.0%
Quality of College								
High	12.3%	14.0%	22.7%	23.5%	33.2%	37.6%		
Medium	40.1	45.6	46.8	49.0	46.6	43.4		
Low	47.6	40.4	30.5	27.5	20.2	19.0		
100.0%=	(2303)	(1638)	(3170)	(1899)	(1469)	(316)		

A comparison of the occupations of our respondents and their fathers bears out Chapman's thesis (Table 7-2). The occupational fields for fathers and sons are not directly comparable. Obviously college training shifts the laboring, clerical, and skilled trades, and towards the professional and managerial ranks. Some patterns do emerge, however. Fathers in professional occupations are the most likely to have sons who are lawyers or medical workers, and among the least likely to have sons who are salesmen or fiscal, office, or management workers. Fathers who are business officials or salesmen are much more likely to have sons who are salesmen, and fathers who are business officials or proprietors are the most likely to have sons who enter fiscal, office, or management work. The sons of laborers, farm owners or managers, service workers and skilled workers are the most likely to become elementary and secondary school teachers. Fathers who are farm owners or managers are considerably more likely than any other group to have sons who are clergymen. (Table 7-2 is on page 96.)

High School Background

Eighty percent of the liberal arts alumni attended a public high school, 8 percent a parochial school and 12 percent a private preparatory school (Table 7-3). Over the period covered by the survey public high school enrollment declined slightly. (Table 7-3 is on page 97.)

Sixty percent of all parochial school graduates attended Catholic colleges. The remaining 40 percent were equally distributed between private and public institutions. Almost two-thirds of the private and preparatory school students went on to private colleges and universities. Public high school graduates were much more likely to attend public colleges than were the private or parochial school students, and were the least likely to attend Catholic colleges. Parochial school graduates were the most likely to attend low-quality colleges, while private or preparatory school graduates were the most likely to attend high-quality colleges. The college academic performances of the three types of high school graduates were almost identical: 10 percent of each group made "high" records. However, as academic standards vary considerably between high-quality and low-quality colleges, actual academic achievement may not have been comparable.

College Academic Background

College background has a definite effect upon level of responsibility, earnings, occupation, and employer.

Graduates with the best academic records are far more likely to work for colleges and universities than are those with poor records--the figures are 25 percent as contrast to 2 percent (Table 7-4). On the other hand, almost twice as many students with poor academic records, as contrasted to those with high records, enter private business (manufacturing and non-manufacturing). Yet alumni of high-quality colleges are significantly more likely to enter private non-manufacturing firms. Roughly comparable proportions from each quality grouping are employed in private manufacturing. Only slightly greater percentages of alumni from high-quality institutions than from medium or low-quality institutions work for colleges and universities. Graduates of low-

TABLE 7-2

Current Occupations of Alumni by the Occupations of Their Fathers

Current Occupations of Alumni	Occupations of Fathers Profes-sional	Propri-etor	Business Official	Sales-man	Clerical Worker	Farm owner or manager	Tech-nician	Skilled Worker	Service Worker	Laborer
Lawyer	11.4%	8.9%	6.3%	7.4%	6.1%	3.2%	5.3%	4.7%	6.0%	4.3%
Clergyman	4.2	2.9	3.0	2.7	3.8	10.8	6.1	4.2	4.4	5.8
Elem- Second. Teach.	11.3	10.9	7.9	11.6	11.9	19.7	11.5	16.0	17.4	21.2
College Teacher	6.1	4.3	4.7	4.7	6.6	5.6	7.6	6.1	6.0	7.1
Salesman	7.2	12.7	15.9	15.9	8.6	5.0	7.6	7.5	7.3	7.3
Social Serv. Worker	4.2	3.8	3.4	5.1	5.3	2.2	6.9	4.8	6.0	6.8
Medical	13.3	11.0	7.3	9.1	6.1	9.9	9.2	6.4	7.0	7.3
Sci-Math.	13.0	9.9	10.7	10.1	17.0	14.2	16.8	17.7	14.3	11.4
Fin-Off-Mgt.	13.0	23.0	25.3	18.9	17.7	11.8	12.9	16.2	14.3	15.7
Creative	5.1	4.0	4.7	5.0	3.8	2.9	4.6	3.6	3.6	2.5
Student	1.3	0.6	0.9	1.1	0.5	1.5	0.0	1.2	0.8	0.8
Other	9.9	8.0	9.9	8.4	12.6	13.2	11.5	11.6	12.9	9.8
100% =	(1897)	(1680)	(1624)	(704)	(395)	(585)	(131)	(1514)	(385)	(396)

TABLE 7-3

Type of High School Attended by Year of Graduation, Control of College, Quality of College, and Academic Record

"From which kind of high school did you graduate?"

	Public high school	Parochial school	Prep school or private high school	No answer	Total
All Graduates	79.8%	7.6	11.7	0.9	100.0%
Year of Graduation					
1948	83.4%	5.5	10.2	0.9	100.0%
1953	79.2%	7.5	12.7	0.6	100.0%
1958	77.0%	9.7	12.3	1.0	100.0%
Control of College					
Catholic	5.1%	61.2%	20.7%		
Public	41.4	19.6	16.7		
Private	53.5	19.2	62.6		
100% =	(8682)	(825)	(1277)		
Quality of College					
High	19.0%	6.9%	45.2%		
Medium	48.2	33.0	34.6		
Low	32.8	60.1	20.2		
100% =	(8682)	(825)	(1277)		
Academic Record					
High	10.2%	10.3%	9.9%		
Average	56.3	57.4	54.0		
Low	33.5	32.3	36.1		
100% =	(6814)	(659)	(956)		

TABLE 7-4

Current Employer by Year of Graduation, Academic Record, and Quality of College

	Priv. Manuf.	Priv. Non-Mf.	Agri-culture	El-Sec. Sch.	Coll-Univ.	U.S. Mil.	Fed. Govt.	St-L. Govt.	Res. Org.	Hosp-Ch-Clin	Other & No Answer	Total
All Graduates	17.9%	29.7	0.4	10.3	8.8	4.5	5.5	4.1	2.6	8.8	7.4	100.0%
Year of Graduation												
1948	19.6%	33.2	0.4	10.1	10.2	1.8	5.4	3.8	2.3	7.9	5.3	100.0%
1953	19.0%	31.3	0.4	10.2	8.8	3.6	5.2	4.0	2.7	9.3	5.5	100.0%
1958	15.2%	24.7	0.2	10.5	7.6	7.9	5.9	4.5	2.9	9.1	11.5	100.0%
Academic Record												
High	11.5%	18.9	0.1	5.7	25.2	4.1	7.0	1.7	3.9	11.9	10.0	100.0%
Average	16.5%	26.9	0.3	10.9	10.0	4.7	6.0	3.9	3.0	10.2	7.6	100.0%
Low	22.7%	43.0	0.3	6.9	2.4	2.1	3.4	2.3	2.3	9.1	5.5	100.0%
Quality of College												
High	17.8%	37.3	0.5	5.8	10.8	3.5	4.9	3.2	2.9	5.6	7.7	100.0%
Medium	19.0%	30.1	0.3	7.4	8.4	5.4	6.4	4.7	2.8	8.5	7.0	100.0%
Low	16.5%	24.2	0.3	16.9	8.2	3.7	4.8	4.0	2.2	11.1	8.1	100.0%

quality institutions are the most likely to find employment with elementary and secondary schools and with hospitals, churches, and clinics. Trends by year of graduation show that older alumni are somewhat more likely to be engaged in private business (particularly non-manufacturing). As might be expected, 1958 graduates are the most likely to be in the military service. (Table 7-4 is on page 98.)

Liberal arts graduates typically enter a wide range of employment fields. Some patterns, however, may be noted in the relationships between various majors and employers (Table 7-5). Humanities majors (particularly in foreign language and fine arts) are the most likely to enter teaching at all levels. More than a quarter of all science and mathematics majors (including 39 percent of chemistry majors and 33 percent of all other physical sciences majors) enter private manufacturing. Economics majors are much more likely to work for business (both manufacturing and non-manufacturing) than is true of any other major. A third of all majors in philosophy and religion are employed by hospitals, churches, and clinics--or at least the "churches" segment. (Table 7-5 is on page 100.)

The next two tables explore the relationship between college background and current occupations. Graduates of high-quality colleges are three times as likely to become lawyers as are graduates of low-quality institutions (Table 7-6). Graduates of the better schools are also more likely than those from poorer schools to become salesmen, fiscal, office, and management workers, and medical workers. (A slightly higher proportion of graduates from "average" schools than from high-quality schools enter medical work, however.) Alumni of low-quality colleges are much more likely than those from the best schools to become clergymen or elementary and secondary school teachers. No strong patterns appear to result from the type of college attended. Graduates of Catholic colleges are slightly more likely to become elementary and secondary school teachers, salesmen, or fiscal, office, and management workers, whereas graduates of private colleges are slightly more likely to become lawyers or clergymen. Public college alumni lead slightly in the proportions becoming medical workers and scientists and mathematicians. (Table 7-6 is on page 101.)

A comparison of college majors and current occupations of the graduates is presented in Table 7-7, and shows some expected patterns. Science and mathematics majors are by far the most likely to become scientists and mathematicians--this occupational field is selected by 46 percent of all chemistry majors, 58 percent of all other physical science majors, and 31 percent of all mathematics majors. Biological science majors, however, are the most likely to enter the medical field. Nearly one-fifth of the mathematics majors become elementary and secondary school teachers, but those humanities majors who took philosophy or religion as their area of concentration are more likely to become clergymen. Significant proportions of English majors and fine arts majors enter creative fields. The two majors which appear to lead to the most diverse occupational patterns are English and social sciences other than economics. It is interesting to note that at least a few graduates from each major field are represented in every occupational group. (Table 7-7 is on page 102.)

The relationship between college major and current salary is presented in Table 7-8. Generally speaking, majors in biology, economics and chemistry report the highest salaries: nearly one-fourth of the biology majors, for

TABLE 7-5

Current Employer by College Major

	Priv. Manuf.	Priv. Non-Mf.	Agri-culture	El-Sec. Sch.	Coll-Univ.	U.S. Mil.	Fed. Govt.	St&L. Govt.	Res. Org.	Hosp-Ch-Clin.	Other & No Answer	Total
All Graduates	17.9%	29.7	0.4	10.3	8.8	4.5	5.5	4.1	2.6	8.8	7.4	100.0%
College Major												
Chemistry	39.1%	15.3	0.3	3.9	10.1	3.4	5.0	1.1	7.1	6.8	7.9	100.0%
Phys. Sci.	33.3%	11.9	0.1	4.2	10.6	3.6	13.0	4.2	9.9	0.8	8.4	100.0%
Bio. Sci	10.2%	29.6	0.4	7.2	8.2	9.6	4.7	4.1	1.9	15.2	8.9	100.0%
Math	26.0%	17.6	0.4	17.3	12.6	6.1	5.7	2.3	5.9	1.1	5.0	100.0%
Economics	26.8%	47.4	0.5	4.5	2.8	2.4	4.6	2.7	0.9	2.6	4.8	100.0%
Soc. Sci.	11.8%	31.4	0.4	13.1	8.5	4.5	6.2	6.6	1.4	9.1	7.0	100.0%
English	12.4%	35.2	0.2	13.0	11.2	2.7	2.9	2.8	1.4	9.4	8.8	100.0%
Foreign L.	12.0%	20.7	--	17.8	16.8	3.9	5.8	3.9	0.5	6.7	11.9	100.0%
Phil-Rel.	7.9%	19.2	0.3	8.6	10.1	1.2	3.2	1.5	1.5	35.9	10.6	100.0%
Arts	9.9%	22.5	--	28.8	15.3	3.2	1.8	3.2	0.9	5.4	9.0	100.0%

TABLE 7-6

Current Occupation by Year of Graduation, Quality of College, and Control of College

	Lawyer	Clergy-man	El-Sec. Sch.	Coll-ege T.	Sales-man	Social Serv.	Med-ical	Sci-Math	Fis-Off-Mgt.	Crea-tive	Other & No Answer	Total
All Graduates	6.8%	3.9	11.8	5.3	9.6	4.0	8.5	11.9	16.9	3.9	17.4	100.0%
Year of Graduation												
1948	6.4%	4.1	12.0	6.8	10.0	3.9	7.7	11.7	19.0	4.6	13.8	100.0%
1953	7.9%	4.3	9.3	7.2	10.2	4.0	9.7	12.2	16.5	4.3	14.3	100.0%
1958	6.1%	3.2	7.3	4.7	8.8	4.3	8.1	11.9	15.4	3.0	23.2	100.0%
Quality of College												
High	10.5%	1.3	7.5	5.6	13.0	3.3	8.6	9.4	20.1	4.4	16.3	100.0%
Medium	7.4%	3.0	9.2	4.8	8.9	4.5	9.7	14.1	16.2	4.2	18.0	100.0%
Low	3.6%	6.7	17.6	5.7	8.4	4.0	6.9	10.7	16.1	3.3	17.0	100.0%
Control of College												
Catholic	5.8%	2.0	13.9	4.3	12.4	3.0	6.5	11.4	19.7	3.2	17.8	100.0%
Public	6.8%	1.7	11.6	5.3	8.3	4.7	9.0	15.4	15.0	3.9	18.3	100.0%
Private	7.0%	5.8	11.5	5.5	10.0	3.8	8.6	9.6	17.8	4.1	16.3	100.0%

TABLE 7-7

Current Occupation by College Major

Current Occupation	All Graduates	Chemistry	Other Phy. Sci.	Biol. Sci.	Sci. Math	Econ.	Other Soc.Sci.	English	Languages	Phil-Rel.	Fine Arts
Lawyer	6.8%	0.7%	0.4%	1.3%	1.3%	9.3%	12.2%	7.2%	2.4%	5.4%	1.4%
Clergyman	3.9	0.8	0.3	0.2	0.4	0.3	5.1	5.7	3.4	31.0	1.8
Elem-Second. Teach.	11.8	5.9	6.0	8.2	19.0	4.8	14.1	15.9	24.0	12.0	32.4
College Teacher	5.3	4.2	3.6	4.3	7.7	1.9	5.2	8.6	10.6	7.1	11.3
Salesman	9.6	4.6	4.3	5.3	6.1	20.4	10.4	10.6	7.7	5.4	4.1
Social Serv. Worker	4.0	0.3	0.1	0.6	0.5	2.2	9.4	2.1	2.4	2.7	2.3
Medical Worker	8.5	16.1	0.3	44.3	0.9	0.4	2.3	2.0	2.9	1.7	0.9
Scientist-Math.	11.9	46.3	58.3	11.9	31.3	2.5	1.5	0.9	3.4	2.0	1.8
Fiscal-Office-Mgmt.	16.9	6.8	6.9	6.1	10.3	40.2	18.4	15.5	18.3	14.7	7.2
Creative Worker	3.9	0.6	0.6	1.0	1.1	2.1	3.1	15.5	3.4	1.7	20.7
Other	9.5	5.9	10.1	7.8	16.4	10.4	11.0	7.5	9.1	4.9	7.2
No Answer	7.9	8.8	9.1	9.0	5.1	5.0	7.3	8.5	12.2	11.4	8.9
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 7-8

Current Earnings by College Major
(Total Sample)

"What is your current annual salary in your present position?"

	Under $4,000	$4,000-7,999	$ 8,000-11,999	$12,000-14,999	$15,000-17,999	$18,000-24,999	$25,000 or more	No Answer	Total
All Graduates	2.9%	28.4	33.0	11.1	5.6	4.8	4.1	10.1	100.0%
College Major									
All Sci.-Math.	3.1%	19.9	37.1	14.2	6.6	5.1	4.2	9.8	100.0%
Chemistry	3.9%	14.6	38.2	16.4	7.1	5.1	4.3	10.4	100.0%
Other Phy. Sci.	1.4%	19.8	42.2	15.7	7.1	2.9	1.2	9.7	100.0%
Biol. Sci.	5.5%	22.3	26.7	8.7	6.2	8.6	9.3	12.7	100.0%
Math.-Stat.	1.6%	23.0	41.3	15.8	6.1	3.9	2.0	6.3	100.0%
All Soc. Sci.	1.4%	27.9	34.3	12.1	5.9	5.3	4.6	8.4	100.0%
Economics	0.9%	22.5	35.0	14.2	6.9	7.2	6.1	7.2	100.0%
Soc. Sci.	2.0%	33.3	33.6	10.0	4.9	3.5	3.0	9.7	100.0%
Humanities	5.0%	41.9	26.8	5.6	3.5	2.5	2.0	12.7	100.0%
English	3.1%	34.9	29.1	8.9	5.3	4.2	3.4	11.1	100.0%
For. Lang.	5.3%	41.8	27.4	3.4	2.9	1.9	2.4	14.9	100.0%
Phil.-Rel.	8.6%	44.7	19.9	4.4	3.4	3.2	1.2	14.6	100.0%
Fine Arts	3.2%	45.9	30.6	5.9	2.3	0.9	0.9	10.3	100.0%

example, report annual earnings of $15,000 or more. In contrast, only four percent of the fine arts majors report comparable earnings. (Table 7-8 is on page 103.)

In exploring the relations between various academic background factors and the graduates' current income in greater detail, data for the 1948 graduates only have been used (Table 7-9). These data cover persons in mid-career, with graduate school, military service, and early job changes for career exploration largely behind them. As Table 7-9 shows, science and mathematics majors are more likely to receive high incomes, overall, than are social sciences majors or humanities majors. A third of the science and mathematics majors earn $15,000 or more, in contrast to 27 percent of the social sciences and 19 percent of the humanities majors. Alumni with the highest academic

TABLE 7-9

Current Income by Type of Major, Academic Record, Amount of Graduate Training, and Quality of College
(1948 graduates only)

	Under $6000	6000-9999	10,000-14,999	15,000-20,999	21,000 and over	No Answer	Total
All Graduates	5.1%	26.0	32.8	16.8	11.2	8.1	100.0%
Type of Major							
Science-Math.	3.7%	19.9	34.5	19.5	14.5	7.8	100.0%
Social Sciences	4.6%	27.4	33.0	16.3	10.7	8.0	100.0%
Humanities	9.3%	33.7	28.8	12.8	5.9	9.5	100.0%
Academic Record							
High	6.1%	20.5	30.9	20.9	12.6	9.0	100.0%
Average	4.4%	26.0	32.4	17.5	11.4	8.3	100.0%
Low	5.8%	32.8	31.8	13.8	8.9	6.9	100.0%
Amount of Graduate Training							
None	4.1%	25.7	34.4	18.6	10.7	6.5	100.0%
Some, but no advanced degree	7.0%	27.1	35.8	13.8	7.7	8.6	100.0%
Master's	5.5%	37.3	36.9	8.9	4.0	7.4	100.0%
Professional	7.2%	14.1	16.8	23.3	25.3	13.3	100.0%
Doctor's	1.4%	22.6	47.3	19.6	4.6	4.5	100.0%
Quality of College							
High	3.3%	17.9	33.3	22.6	15.0	7.8	100.0%
Medium	4.0%	24.2	33.3	18.0	12.9	7.6	100.0%
Low	7.7%	33.3	31.7	11.5	6.6	9.2	100.0%

records are more likely to be earning $15,000 or more than are those with average or poor records. Quality of the college attended also affects income: 30 percent of those from highest-ranking schools earn $15,000 or more, as compared with 10 percent from low-quality colleges. The highest incomes are reported by holders of professional degrees, half receive $15,000 or more. While graduates who hold doctorates are concentrated in the $10,000 to $15,000 income bracket (47 percent), they fall substantially behind professional degree holders in top income brackets.

A further analysis was made of the income and occupational patterns of the 1948 graduates in terms of another classification of the colleges and universities attended (Table 7-10). These college groupings are described in detail in Appendix D. (Table 7-10 is on page 106.)

Graduates of Ivy League colleges are the most likely of all these groups to reach the top income brackets: 20 percent earn $21,000 or more, compared to 16 percent from the "best public universities," 14 percent from the "average universities," 8 percent from the "weak universities," and only 4 percent from the "weak liberal arts colleges." Occupationally, alumni from the "best Catholic universities" and the Ivy League colleges are the most likely to become lawyers. Alumni from the "weak liberal arts colleges" are by far the most likely to become clergymen, while none of our sample from the "best public universities" entered the clergy. Graduates of the "weak liberal arts colleges" and the "weak universities" are also the most likely to become elementary and secondary school teachers. Relatively similar proportions of all college groupings, however, enter college teaching.

Graduates who report they worked much harder than their classmates in college are no more likely to earn higher salaries (Table 7-11). Yet, the hardest workers as students are more likely to earn master's and doctor's degrees. (Table 7-11 is on page 107.)

A comparison of graduate degree holders by current employers and occupations shows the anticipated strong correlations for many fields. Those with medical degrees become medical workers and are employed in hospitals and clinics or in private non-manufacturing. Those with law degrees become lawyers and tend to enter private non-manufacturing firms. Those with doctorates become college teachers or work for research organizations. Master's degree holders work for elementary and secondary schools, or become social service workers. Divinity doctorates enter the clergy. Graduates with bachelor's degrees are more likely to enter private business or work for state or local governments.

Self-Support During College

There is a myth that the self-supporting student in college is more likely to earn high salaries in later life. Actually, there is only a slight correlation between self-sufficiency as an undergraduate and current income. Forty-two percent of those who did not support themselves at all in college are now earning $10,000 or more, compared with 39% of those who provided at least three-quarters of their own support.

Self-support in college is more closely related to current occupation.

TABLE V-10

Classification of College Attended by Income and Occupation
(1940 Graduates Only)

	Ivy League	Big Ten	Best Cath.	Other Cath.	Best Public Univs.	Best Priv. Univs.	Ave. Univs.	Weak Univs.	Best Lib. Arts	Ave. Lib. Arts	Weak Lib. Arts	Total
All Graduates	8.9%	8.6	2.3	8.0	4.7	4.6	21.9	14.3	5.2	9.5	12.0	100.0%
Income												
Under $6000	2.7%	3.3%	10.8%	4.3%	2.4%	2.7%	3.7%	5.0%	4.0%	5.0%	12.2%	
$6000-9999	15.5	24.8	14.5	26.2	13.6	27.8	21.7	29.1	18.5	31.5	43.1	
$10,000-14,999	29.0	31.7	31.3	38.4	33.3	30.9	32.4	33.3	40.2	30.9	24.3	
$15,000-20,999	25.9	22.6	22.9	13.3	20.4	16.7	13.0	13.0	17.4	13.4	8.3	
$21,000-24,999	6.6	2.0	1.2	1.4	4.2	2.5	3.3	1.8	1.6	3.0	0.7	
$25,000 and over	12.9	10.1	8.4	6.7	12.0	9.9	10.9	6.3	8.2	6.9	3.1	
No answer	7.6	5.5	10.9	8.5	10.1	9.7	7.0	10.4	9.2	7.3	7.9	
100.0% =	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Occupation												
Lawyer	10.7%	6.3%	14.3%	5.7%	6.6%	8.0%	8.4%	5.3%	4.4%	4.3%	1.7%	
Clergyman	2.5	1.0	4.8	2.1	00	1.9	1.4	3.7	3.3	8.9	13.2	
Elem-Second. Teach.	3.4	8.5	11.8	9.6	5.6	11.1	9.2	14.9	10.3	8.6	22.8	
College Teacher	6.0	7.8	6.0	3.7	3.4	6.8	7.5	8.5	9.7	7.7	7.1	
Salesman	13.1	9.8	10.8	16.0	12.8	9.3	7.0	9.7	14.9	12.8	4.8	
Social Serv. Worker	2.2	3.3	4.8	2.8	2.4	4.3	4.7	5.5	4.4	3.0	3.8	
Medical Worker	7.9	9.5	8.4	5.0	7.2	11.1	9.7	8.3	6.5	4.8	5.4	
Scientist-Math.	7.3	17.7	7.2	12.4	13.0	10.3	13.8	9.1	10.3	9.2	8.7	
Fiscal-Office-Mgmt.	23.3	22.2	16.9	24.8	20.4	16.7	17.5	14.0	13.8	23.7	17.2	
Creative Worker	7.9	4.3	2.4	4.3	6.0	3.1	3.9	5.9	4.9	5.6	1.9	
Other	7.6	6.5	9.6	6.0	10.2	13.0	10.7	7.3	9.8	6.8	9.4	
No answer	4.1	2.9	3.8	3.6	9.4	4.2	4.4	5.8	4.7	4.4	6.0	
100.0% =	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

TABLE 7-11

How Hard Alumni Worked in College by Income and Highest Degree Earned

"Compared to other students in your class in college, how hard would you say you worked on your studies?

	Considerably harder	Somewhat harder	About the same	Somewhat less	Considerably less	No Answer	Total
All Graduates	9.8%	32.8	35.0	16.6	5.4	0.4	100.0%
Income							
Under $6000	10.3%	11.8%	11.2%	10.1%	7.6%		
$6000-9999	36.8	38.6	41.5	39.7	36.8		
$10,000-14,999	23.7	23.9	25.2	26.1	25.8		
$15,000-20,999	9.9	9.9	8.3	9.2	11.7		
$21,000-24,999	1.3	1.4	1.0	1.2	0.7		
$25,000 and over	4.7	4.0	3.9	4.2	5.3		
No answer	13.3	10.4	8.9	9.5	12.1		
100.0% =	(1067)	(3568)	(3806)	(1810)	(590)		
Highest Degree Earned							
Bachelor's	35.1%	42.2%	54.3%	54.4%	55.9%		
Master's	25.7	23.5	20.3	19.4	17.5		
Professional	23.5	23.6	19.0	20.1	21.7		
Doctorate	14.1	9.2	4.8	4.3	4.2		
No answer	1.6	1.5	1.6	1.8	0.7		
100.0% =	(1067)	(3568)	(3806)	(1810)	(590)		

Of those alumni who are now clergymen, 43 percent earned half or more of their college expenses. Forty percent of the scientists and mathematicians and 36 percent of the elementary and secondary school teachers provided half or more of their own support in college. Only 23 percent of the lawyers and 21 percent of those in medical fields earned half or more of their college expenses.

As is the case with self-support and income, there is only a slight correlation between the holding of scholarships and current income: those who did not report a scholarship are slightly more likely to be in the higher income brackets than those with scholarships (Table 7-12). Scholarship holding, is, however, related to the earning of advanced degrees. Those with scholarships are more likely to have received master's and professional degrees, and twice as likely to have received doctorates as are those without scholarships. While not shown, scholarship holding varies by current occupation. More than 40 percent of the college teachers and clergymen and a third of the medical workers were scholarship holders in college, while only a fifth of the salesmen

TABLE 7-12

Scholarships by Income and Highest Degree Earned

"Which of the following contributed to your expenses while you were in college . . . scholarship."

	Held a scholarship	Did not hold a scholarship	Total
All Graduates	25.2%	73.8	100.0%
Income			
Under $6000	12.3%	10.4%	
$6000-9999	30.3	30.3	
$10,000-14,999	25.7	26.5	
$15,000-20,999	7.3	7.6	
$21,000-24,999	1.1	1.8	
$25,000 and over	2.9	4.6	
No answer	11.1	9.3	
100.0%=	(3217)	(7609)	
Highest Degree Earned			
Bachelor's	38.4%	52.9%	
Master's	24.1	20.6	
Professional	24.9	20.0	
Doctorate	11.3	9.3	
No answer	1.3	1.3	
100.0%=	(3278)	(7699)	

and the fiscal, office, and management workers had scholarships.

Extra-Curricular Activities

Student participation in extra-curricular activities appears to have little relation to current income (Table 7-13). Some patterns are evident when participation in different types of activities is compared with highest degree earned. Those alumni who held a major student government post are more likely to have professional degrees than those who did not. The ex-college editors are somewhat more likely to have master's or professional degrees than those who did not participate in college publications. Only slight differences exist at the level of the doctorate. While not shown, lawyers are much more likely than other occupational groups to have been

TABLE 7-13

Campus Leadership by Income and Highest Degree Held

"How would you classify your participation in each of the following extra curricular activities?" (Comparison of those who held a major office or responsibility and those who did not.)

	Student Government		College Publication	
	Held office	Did not	Held office	Did not
All Graduates	9.4%	90.6%	7.3%	92.7%
Income				
Under $6000	9.0%	11.0%	10.0%	10.9%
$6000-9999	37.9	35.4	38.4	35.7
$10,000-14,999	27.1	26.8	25.7	26.7
$15,000-19,999	9.8	10.2	8.5	9.3
$20,000-24,999	1.3	1.2	1.3	1.2
$25,000 and over	5.7	6.0	6.9	6.1
No answer	10.2	9.0	9.2	10.1
100.0% =	(1026)	(9851)	(790)	(10,087)
Highest Degree Held				
Bachelor's	46.0%	48.4%	43.0%	49.0%
Master's	20.1	21.7	24.3	21.3
Professional	23.7	20.5	24.2	21.2
Doctorate	8.1	7.0	7.6	7.0
No answer	1.8	1.4	0.7	1.5
100.0% =	(1026)	(9851)	(790)	(10,087)

student government leaders, and creative workers are much more likely to have been student editors.

Salesmen and elementary and secondary school teachers report the greatest participation in varsity athletics, while creative workers and social service workers were the least athletically inclined in college.

Sacrifices for the Job

Graduating into what caustic writers labelled "The Age of Security" college seniors of the 1940's and 1950's were accused of searching for the adult version of the security blanket instead of opportunity and challenge. The lives of the alumni show this accusation had little basis in fact. Nearly half frequently take work home or are at the office after normal working hours and on weekends (Table 7-14). Another quarter say they do "a fair amount" of such extra work, and only 8 percent report no such instances. (Table 7-14 is on page 111.)

Occupational and employer distinctions are much more significant than year of graduation. Graduates with educational institutions at all levels and hospitals, churches, and clinics are the most likely to work longer hours, and those employed by government are the least likely. Three-quarters of the clergymen and the college teachers report heavy amounts of extra work, while less than a third of the social service workers and the scientists and mathematicians do so.

A third of the graduates say they "definitely" would move to another state to further their careers, and another third say they "probably" would make such a move (Table 7-15). Not surprisingly, the younger alumni and those in the lower income brackets indicate the greatest willingness to move in order to obtain a promotion or a better job. College teachers, clergymen, and scientists and mathematicians are the most willing to change job locales, while lawyers and medical workers are the least willing. (Table 7-15 is on page 112.)

A quarter of all the graduates report they hold two income-producing jobs at the same time during the previous 12 months. Half of all those employed by elementary and secondary schools and a third of those employed by colleges and universities and by state and local governments hold second jobs. The least likely to hold a second job were affiliated with military services (11 percent) or private manufacturing concerns (13 percent).

Minority Group Status

Race is assuredly a factor influencing vocational patterns. Some minority group alumni were drawn in our sample and, although their numbers are small, their responses provide some tentative conclusions. One immediate conclusion, of course, is that relatively small numbers of minority group members attend colleges and universities. Among our alumni 98.4 percent were white, 0.8 percent Negro, 0.5 percent Oriental and 0.3 percent other or no answer.

Half of all the Negro alumni included attended low-quality colleges, in contrast to 33 percent of the white alumni and 24 percent of the Oriental alumni (Table 7-16). Negro graduates are the most likely to hold master's degrees, Orientals to hold professional degrees and whites to hold doctor's degrees. More than a third of all Oriental graduates are medical workers, compared with 10 percent of the white and 7 percent of the Negro alumni. Negroes are disproportionately represented in elementary and secondary school teaching and social service work: 42 percent in contrast to 19 percent of the white and 15 percent of the Oriental graduates. Negroes and Orientals are much less likely than whites to enter the private business fields of sales and fiscal, office, and management. Interestingly, slightly more Negro than white respondents become college teachers. (Table 7-16 is on page 113.)

Despite current attention to problems of race, relatively few comments dealt with this topic:

TABLE 7-14

How Hard Alumni Work by Year of Graduation, Current Income, Employer and Occupation

"Do you frequently take work home or come into your office after working hours or on week ends?"

	Quite a Lot	A Fair Amount	A Little	None	No Answer	Total
All Graduates	45.8%	24.3	20.3	7.5	2.1	100.0%
Year of Graduation						
1948	46.3%	26.0	20.9	5.7	1.1	100.0%
1953	46.6%	24.5	20.9	6.9	1.1	100.0%
1958	44.4%	22.4	18.9	9.6	4.1	100.0%
Income						
Under $6000	59.5%	16.0	12.7	10.6	1.2	100.0%
6000-9999	41.6%	25.8	23.4	9.2	-	100.0%
10,000-14,999	43.1%	27.7	23.7	5.2	0.3	100.0%
15,000-20,999	55.5%	25.3	15.6	3.5	0.1	100.0%
21,000 and over	56.0%	24.5	15.7	3.8	-	100.0%
Employer						
Private Manufactur.	34.8%	28.5	27.0	9.5	0.2	100.0%
Private Non-Manufact.	43.5%	28.1	20.5	7.4	0.5	100.0%
Agriculture	54.1%	21.6	13.5	10.8	-	100.0%
Elem-Second. Schools	60.3%	23.3	14.3	2.0	0.1	100.0%
Colleges-Universities	73.0%	17.5	7.6	1.5	0.4	100.0%
U.S. Military Serv.	37.6%	26.5	22.7	11.2	2.0	100.0%
Federal Government	24.5%	27.0	29.3	18.7	0.5	100.0%
State-Local Govt.	22.9%	27.2	33.4	16.3	0.2	100.0%
Research Organiz.	30.5%	28.8	32.6	7.4	0.7	100.0%
Hospital-Church Clin.	64.5%	20.7	10.8	3.0	1.0	100.0%
Occupation						
Lawyer	53.2%	26.9	15.8	3.7	0.4	100.0%
Clergyman	77.7%	15.2	4.5	1.9	0.7	100.0%
Elem-Second. Teach.	63.2%	21.3	12.9	2.3	0.3	100.0%
College Teacher	76.5%	16.6	6.1	0.4	0.4	100.0%
Salesman	48.1%	25.6	21.3	4.8	0.2	100.0%
Social Serv. Worker	31.0%	27.6	29.6	11.6	0.2	100.0%
Medical Worker	53.4%	24.1	15.1	6.4	1.0	100.0%
Scientist-Math.	29.2%	29.9	31.4	9.5	-	100.0%
Fiscal-Office-Mgmt.	33.3%	27.1	28.5	11.0	0.1	100.0%
Creative Worker	42.0%	23.8	21.5	11.4	1.3	100.0%
Other	31.9%	27.3	25.5	14.4	0.9	100.0%

TABLE 7-15

Willingness of Alumni to Relocate for New Job by Year of Graduation, Current Employer, Income, and Occupation

"Would you be willing to move to another state to accept a promotion or a better job?"

	Definitely Yes	Probably Yes	Probably No	Definitely No	No Answer	%
All Graduates	32.3%	34.1	22.5	9.0	2.1	0%
Year of Graduation						
1948	27.7%	33.8	26.0	11.5	1.0	0%
1953	32.0%	34.2	23.3	9.2	1.3	0%
1958	37.0%	34.2	18.3	6.5	4.0	0%
Employer						
Private Manufactur.	42.0%	35.6	16.7	4.8	0.3	0%
Private Non-Manufact.	24.7%	30.5	29.8	13.0	0.4	0%
Agriculture	18.9%	24.3	29.7	27.1	-	0%
Ele-Second. Schools	25.7%	37.7	27.7	8.8	0.1	0%
Colleges-Universities	44.7%	35.7	14.4	4.6	0.8	0%
U.S. Military Service	53.6%	27.7	7.9	5.2	5.6	0%
Federal Government	34.0%	38.0	20.1	6.2	0.7	0%
State-Local Govt.	22.3%	37.8	31.9	8.0	0.2	0%
Research Organiz.	31.2%	40.4	21.8	6.3	0.3	0%
Hospital-Church Clin.	27.2%	41.6	22.2	6.9	2.1	0%
Income						
Under $6000	31.4%	36.7	20.7	10.0	1.2	.0%
6000-9999	34.9%	36.9	21.7	6.2	0.3	.0%
10,000-14,999	35.0%	34.9	22.2	7.5	0.4	.0%
15,000-20,999	25.5%	29.4	29.7	14.9	0.5	.0%
21,000 and over	22.8%	25.4	30.6	20.8	0.4	.0%
Occupation						
Lawyer	17.2%	29.9	36.1	16.4	0.4	.0%
Clergyman	26.1%	50.4	17.6	3.8	2.1	.0%
Elem-Second. Teach.	28.5%	36.4	26.5	8.2	0.4	.0%
College Teacher	42.6%	38.9	13.8	4.0	0.7	.0%
Salesman	37.0%	32.2	20.6	9.8	0.4	.0%
Social Serv. Worker	33.7%	33.9	24.8	7.3	0.3	.0%
Medical Worker	23.4%	26.2	30.1	18.4	1.9	.0%
Scientist-Math.	36.4%	39.8	19.2	4.6	-	.0%
Fiscal-Office-Mgmt.	34.2%	34.1	22.5	8.9	0.3	.0%
Creative Worker	30.8%	30.8	29.6	8.2	0.6	.0%
Other	41.0%	34.2	16.0	7.3	1.5	.0%

TABLE 7-16

Race by Quality of College, Academic Record, Highest Degree Held, and Occupation

	Race					
	White	Negro	Oriental	Other	No Answer	Total
All Graduates	98.4%	0.8%	0.5%	0.1%	0.2%	100.0%
Quality of College						
High	21.3%	13.3%	27.3%			
Medium	45.4	36.1	49.1			
Low	33.4	50.6	23.6			
100.0% =	(10,698)	(83)	(55)			
Academic Record						
High	10.2%	4.8%	8.9%			
Average	56.2	48.4	62.2			
Low	33.6	46.8	28.9			
100.0% =	(8361)	(62)	(45)			
Highest Degree Held						
Bachelor's	48.6%	49.4%	45.5%			
Master's	21.5	33.7	20.0			
Professional	21.5	13.3	29.1			
Doctorate	7.1	1.2	3.6			
No answer	1.3	2.4	1.8			
100.0% =	(10,698)	(83)	(55)			
Occupation						
Lawyer	8.2%	2.7%	7.7%			
Clergy	4.6	5.5	-			
Elem-Second. Teach.	14.1	21.9	7.7			
College Teacher	6.3	6.8	2.6			
Salesman	11.6	5.5	-			
Social Serv. Worker	4.7	21.9	7.7			
Medical Worker	10.1	6.9	35.9			
Scientist-Math.	14.1	16.4	25.6			
Fiscal-Office-Mgmt.	20.4	11.0	12.8			
Creative Worker	4.8	-	-			
Student	1.1	1.4	-			
100% =	(8957)	(73)	(39)			

> Being a minority group member, an Oriental, has not posed any problems.
>
> (University of California)

> As a Negro, my abilities are more noticeable because there are so few Negro professionals in the Puget Sound area. This has enabled me to have access to better career opportunities than I might have had otherwise. On the other hand, my clientele is largely Negro which places a definite ceiling on potential income.
>
> (University of California)

Summary

A quarter of the graduates' fathers and 16 percent of the mothers are themselves college graduates. The level of the parents' education is clearly related to the quality of the college attended by the sons, with percentages of sons attending high-quality institutions showing a steady rise as the parents' educational level rises.

There is no such clear pattern governing relations between fathers' and sons' occupations. The data, in fact, make evident the effect of college education in shifting the sons' occupations toward the professional and managerial ranks and in dispersing their occupations over a wide range of fields. Some relations are observable, however: sons of college graduates are more likely to enter such professional fields as law and medical work, while sons of business officials, proprietors, or salesmen are much more likely to enter similar business fields.

High school background influenced both the quality and the control of the college attended. As expected parochial school graduates were the most likely to attend Catholic colleges, but they were also the most likely to attend low-quality colleges. The public high school graduates who make up the great majority (80 percent) of the total sample were much more likely to attend public colleges than were either the private school or the parochial school students, and were the least likely to attend Catholic colleges.

College background influences such career factors as occupation, employer, and income. Graduates with high academic records and from high-quality colleges are often found in the upper income brackets. Quality of college is more closely related to income level than is academic record. These two college background factors are also related to vocational choice, although in different ways. Alumni with high academic records are the most likely to enter college teaching, while those with low records are more likely to enter private business. Quality of college, on the other hand, has relatively little effect on selection of college teaching as a career. While alumni from high-quality colleges are the most likely to enter private non-manufacturing, graduates of low-quality colleges are over-represented among elementary and secondary school teachers and clergymen.

College major shows some relation to both income and vocational choice. Graduates who majored in science and mathematics tend to receive the highest incomes, and humanities majors the lowest. Biological science majors tend to enter medical fields, majors in the physical sciences to become scientists and mathematicians and to enter private manufacturing. Humanities majors (especially those in foreign languages and fine arts) are the most likely to become teachers. Sixty percent of all economics majors enter private business as salesmen or fiscal, office, and management workers. Majors leading to the most diverse occupational patterns are English and the general social sciences

In an analysis which grouped institutions by broad classifications, control, and, in two cases, athletic conferences, shows Ivy League graduates were the most likely to reach high income brackets, followed closely by graduates of the "best public universities." Alumni of both "weak" universities and "weak" liberal arts colleges are more often found in the lowest income bracket Ivy League and "best Catholic universities" alumni are the most likely to become clergymen and elementary and secondary school teachers.

Self-support in college has little relation to income, but somewhat more relation to occupation. A similar pattern exists with respect to the holding of scholarships. Participation in student activities, again, shows little relation to income, but some to occupational choice: lawyers are the most likely to have been student government leaders, and creative workers are the most likely to have been college editors.

Graduates work hard at their jobs: nearly half take work home frequently or work after hours or weekends at the office. Extra work is more typical of those in the higher income brackets, and of those who work for educational institutions and for hospitals, churches, and clinics. A third of the graduates would be willing to move to another state to better their careers, with younger graduates and those in lower income brackets the most willing to move. A quarter of all graduates held second jobs during the previous 12 months, including half of all elementary and secondary school teachers.

Minority group status affects the quality of college attended, academic performance, and occupational choice. Negroes are the most likely to attend low-quality colleges and to make poor academic records. Later Negroes are the most likely to hold master's degrees and to become elementary and secondary school teachers and social service workers. Oriental alumni are the most likely to hold professional degrees and to enter medical fields. White graduates are the most likely to hold doctor's degrees and are dispersed throughout the widest variety of occupational fields.

Chapter 8: How Liberal Arts Graduates Appraise Their Careers

The alumni commented freely on their jobs, their current career progress, to an extent revealing a deep personal interest in the outcomes of a liberal education. In addition to evaluating their jobs, their employers, and their salaries, the graduates appraised those with whom they worked as subordinates, colleagues, and superiors. Most important were their judgments of liberal education as preparation for a career.

Satisfaction with Jobs

Liberal arts graduates are highly satisfied with the work they are doing (Table 8-1)--69 percent like their jobs very much and 22 percent fairly much.

TABLE 8-1

Satisfaction with Work by Year of Graduation, Current Income, and Occupation

"How much do you like . . . the kind of work you are doing?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	Not Applicable or No Answer	Total
All Graduates	69.3%	22.2	4.4	1.1	3.0	100.0%
Year of Graduation						
1948	73.3%	21.4	3.2	0.7	1.4	100.0%
1953	71.2%	21.8	4.4	0.8	1.8	100.0%
1958	63.7%	23.2	5.5	1.8	5.8	100.0%
Current Income						
Under $6,000	70.6%	21.5	4.3	1.9	1.7	100.0%
6000-9999	66.7%	25.7	5.9	1.2	0.5	100.0%
10,000-14,999	73.7%	22.4	3.0	0.7	0.2	100.0%
15,000-20,999	80.1%	16.4	2.9	0.4	0.2	100.0%
21,000 and over	81.4%	16.3	1.6	0.5	0.2	100.0%
Occupation						
Lawyer	73.8%	22.2	2.6	0.5	0.9	100.0%
Clergyman	81.5%	16.2	1.7	0.2	0.4	100.0%
Elem-Second. Teach.	74.9%	21.0	2.9	0.7	0.5	100.0%
College Teacher	81.8%	15.4	1.9	0.4	0.5	100.0%
Salesman	68.8%	23.7	5.6	1.1	0.8	100.0%
Social Serv. Worker	71.1%	21.2	5.9	1.4	0.4	100.0%
Medical Worker	83.1%	12.0	2.5	0.3	2.1	100.0%
Scientist-Math.	63.2%	29.3	5.6	1.5	0.4	100.0%
Fiscal-Office-Mgmt.	65.7%	26.4	6.1	1.5	0.3	100.0%
Creative Worker	70.9%	23.5	3.7	1.4	0.5	100.0%
Other	64.5%	25.8	6.5	1.9	1.3	100.0%

3

Older alumni are the most satisfied, possibly reflecting both greater tolerance toward job limitations and a seniority status which provides more challenging job assignments. In contrast to the theory that money is often a substitute for satisfying work, income is related to job satisfaction. Those earning over $15,000 a year are the most pleased with their work. The greatest satisfaction is reported by clergymen, medical workers, and college and university professors and the least by fiscal, office, and management workers, salesmen, scientists and mathematicians, and social service workers.

Only one of ten alumni desires to be in an occupation other than his current choice (Table 8-2). This is especially true of alumni in lower income brackets and those who graduated most recently. Those occupational groups least desirous of changing occupations are medical workers, college teachers, lawyers, and clergymen. When year of graduation is considered, there is a suggestion

TABLE 8-2

Desire to Be in Another Occupation by Year of Graduation, Current Income, and Occupation

"Do you wish you were in an occupation other than your present one?"

	Year of Graduation		
Percent saying "Yes"	1948	1953	1958
All Graduates	10.0	9.4	11.2
Current Income			
Under $6,000	13.0	10.6	11.1
6000-9999	13.3	11.2	12.3
10,000-14,999	10.2	8.0	7.8
15,000-20,999	6.8	6.0	5.7
21,000 and over	3.9	7.0	6.3
Occupation			
Lawyer	5.7	3.5	3.5
Clergyman	1.4	3.2	3.4
Elem-Second. Teach.	9.5	8.4	10.2
College Teacher	2.3	5.1	2.5
Salesman	15.0	12.7	14.2
Social Serv. Worker	11.0	14.0	16.4
Medical Worker	3.3	2.8	1.7
Scientist-Math.	10.9	14.5	10.9
Fiscal-Office-Mgmt.	12.5	11.7	18.1
Creative Worker	11.0	10.9	16.4
Other	16.3	11.4	17.9

that certain occupations may become more satisfying over time: older alumni are more satisfied than younger graduates with careers in social science work, creative fields, and fiscal, office, and management occupations.

Few alumni definitely plan to change occupations (Table 8-3), and the likelihood of change is related to time elapsed since graduation. Twenty percent of the younger alumni will or may change, in contrast to 12 percent of the older graduates. Clergymen, medical workers, and lawyers least anticipate making a change. The most likely to change occupations are those currently in social service fields, sales, and fiscal, office, and management. Graduates in the lower income brackets report the greatest likelihood of an occupational change.

TABLE 8-3

Whether Alumni Plan to Change Occupations by Year of Graduation, Current Occupation, and Income

"In the next three years, do you think you will change to another occupation?"

Percent saying "definitely yes" or "probably yes"	1948		1953		1958	
	Def.	Prob.	Def.	Prob.	Def.	Prob.
All Graduates	3.5	8.1	4.2	8.7	8.9	11.7
Occupation						
Lawyer	0.9	2.2	11.1	4.9	3.5	4.0
Clergyman	2.7	3.4	1.3	7.6	1.7	5.1
Elem-Second. Teach.	3.2	8.3	2.7	8.9	6.2	10.6
College Teacher	2.3	4.7	0.5	5.6	10.9	5.0
Salesman	3.4	8.8	3.2	11.9	9.9	12.3
Social Serv. Worker	2.2	13.9	7.0	11.9	11.3	14.5
Medical Worker	1.5	1.5	3.1	2.3	6.7	1.3
Scientist-Math.	3.4	7.2	4.3	9.7	7.1	13.2
Fiscal-Office-Mgmt.	3.6	10.8	5.2	10.2	10.2	19.0
Creative	1.2	8.6	3.2	12.2	10.9	20.9
Other	7.0	12.3	5.1	10.1	10.7	15.5
Income						
Under $6,000	6.0	7.1	4.2	15.0	11.9	9.5
6000-9999	3.9	10.8	4.2	9.7	7.9	13.3
10,000-14,999	3.5	8.6	2.6	8.5	5.2	9.1
15,000-20,999	1.7	5.2	2.6	3.3	5.7	5.7
21,000 and over	1.4	3.5	2.7	5.5	-	8.3

It is interesting to note what fields graduates now prefer. When they express a desire to change to another occupation, liberal arts alumni now would prefer teaching, medical fields, law, and creative occupations (Table 8-4).

TABLE 8-4

Occupations Alumni Wish They Had Entered
(Those Who Desire a Change Only)

"Do you wish you were in an occupation other than your present one? Which one?"

	Percent Actually Employed in the Field (Total Sample)*	Percent Who Would Like to Change to the Field**
Teacher and Educational Administrator (all levels)	17.1%	20.4%
Medical Worker	8.5	11.7
Creative Worker	3.9	10.6
Other	9.5	10.6
Lawyer	6.8	10.2
Fiscal-Office-Mgmt.	16.9	8.1
Scientist-Math.	11.9	7.0
Social Serv. Worker	4.0	5.2
Salesman	9.6	4.5
Clergyman	3.9	1.6
No Answer	7.7	10.1
Total	100.0%	100.0%

*The percentages of the total sample actually employed in each field are shown for purposes of comparison.

**This column is based upon responses by the 1,087 graduates who expressed a wish to change occupations and specified a choice.

Making use of a scale originally developed at Cornell, the questionnaire probed the relative importance of eight occupational characteristics and the extent to which current jobs met these traits. The alumni indicated that most important were the opportunities to use special abilities, to be creative and original, to help others and to enjoy a stable future (Table 8-5). Less important were social status and prestige and the chance to earn a great deal of money. While current jobs fell somewhat short of alumni ideals, they were rated highest in those traits which alumni held most important, with one exception: the opportunity to be creative and original. (Table 8-5 is on page 120.)

TABLE 8-5

Important Job Traits and Whether Current Job Satisfies Them

"Below are some of the characteristics often associated with occupations and professions. Please indicate . . .

...How important each characteristic is to you."

	Very	Some	Little	None	No Answer	Total
Opportunity to use my special abilities	77.4%	19.1	1.5	0.4	1.6	100.0%
Chance to earn a great deal of money	21.5%	52.1	19.8	5.0	1.6	100.0%
Permit me to be creative and original	57.4%	34.4	5.8	0.8	1.6	100.0%
Give me social status and prestige .	14.8%	53.3	24.5	5.7	1.6	100.0%
Enable me to look forward to a stable future	47.0%	41.6	8.1	1.6	1.7	100.0%
Leave me relatively free of supervision	44.2%	39.9	10.3	3.8	1.8	100.0%
Give me a chance to exercise leadership	53.7%	35.1	8.0	1.5	1.7	100.0%

...The extent to which your current job has each characteristic."

	To a High Degree	Moderately	Slightly	Not at All	No Answer	Total
Opportunity to use my special abilities	55.4%	30.9	8.1	1.7	3.9	100.0%
Chance to earn a great deal of money	13.8%	35.1	24.7	22.4	4.0	100.0%
Permit me to be creative and original	38.6%	38.3	15.7	3.5	3.9	100.0%
Give me social status and prestige.	19.6%	49.3	21.3	5.7	4.1	100.0%
Enable me to look foward to a stable future	44.9%	37.3	10.0	3.8	4.0	100.0%
Leave me relatively free of supervision	44.0%	35.8	10.8	5.4	4.0	100.0%
Give me a chance to exercise leadership	37.6%	36.9	16.4	5.2	3.9	100.0%
Give me an opportunity to help others	50.2%	28.1	14.0	3.7	4.0	100.0%

Satisfaction with Employers

A fairly high level of satisfaction was expressed toward the graduates' present employers (Table 8-6). Only 11 percent definitely wish they were working for another employer, while 18 percent are not sure. A change of employer in the next three years is definitely planned by 11 percent of the graduates and is a possibility for another 20 percent. In contrast to the oldest graduates, alumni of five years earlier are almost twice as likely to plan a definite switch. Not surprisingly, low income is closely related to desires and plans for changing employers. Military servicemen and other government employees are the least satisfied with their employers. The most pleased are those affiliated with agricultural enterprises, hospitals, churches, and clinics, private non-manufacturing organizations, colleges and universities, and elementary and secondary schools. Yet, when asked if they expect to change employers in the next three years, college and university employees and those working for hospitals, churches, and clinics are more likely to plan a change than all other groups except military servicemen. While 12 percent of those working for a private manufacturing concern say they would like to change, only six percent plan to do so. (Table 8-6 is on page 122.)

Alumni who expressed a desire to change employers were asked what type of employer they would now prefer, and they indicate a strong preference for colleges and universities (Table 8-7). The federal government also proved a popular choice. The big shift would be away from elementary or secondary schools, military services and state and local government. (Table 8-7 is on page 123.)

Attitudes toward employer promotion policies are shown much more diverse (Table 8-8). Two-thirds of the graduates are at least fairly satisfied with their employer's policy for promotion, while one-third dislike it either slightly or greatly. There are no significant differences among the three graduating classes. By type of employer, those who most approve of their employers' promotion policies are in private non-manufacturing, in hospitals, churches, and clinics, in research organizations and institutes, and in the federal government. (Those in agriculture are disregarded in this and several subsequent tables because of the very small numbers involved). Among the least satisfied are military servicemen and employees of state and local governments. (Table 8-8 is on page 124.)

Satisfaction with Fellow Workers

The alumni were asked how they liked their supervisors, their colleagues, and their subordinates. Here they reserved the greatest criticism for those above them. (Since substantial but varying numbers of alumni had no job associates of one kind or another, these three tables are based only upon those alumni who responded with answers other than "not applicable.")

Only 11 percent of the respondents dislike their supervisors, and only 2 percent dislike them "greatly" (Table 8-9). Those affiliated with colleges or universities and with hospitals, churches, and clinics express the greatest satisfaction with their supervisors, while those employed by elementary and secondary schools or in themilitary services are the least satisfied. There are only slight variations by year of graduation. (Table 8-9 is on page 125.)

TABLE 8-6

Satisfaction with Employer by Year of Graduation, Current Income and Employer

	"Do you wish you were working for an employer other than your present one?"					"In the next three years, do you think you will change to another employer?"					
	Yes	Not Sure	No	No Answer	Total	Def. Yes	Prob. Yes	Prob. No	Def. No	No Answer	Total
All Graduates	11.0%	18.2	66.4	4.3	100.0%	10.8%	20.5	47.5	18.7	2.5	100.0%
Year of Graduation											
1948	8.4%	18.1	71.0	2.5	100.0%	5.0%	15.1	54.8	23.4	1.7	100.0%
1953	10.7%	18.6	67.9	2.8	100.0%	8.8%	20.7	49.9	19.1	1.5	100.0%
1958	13.8%	18.1	60.6	7.5	100.0%	18.3%	25.4	38.0	13.7	4.6	100.0%
Current Income											
Under $6,000	12.7%	17.6	68.0	1.7	100.0%	26.4%	28.5	27.1	16.4	1.6	100.0%
6000-9999	13.9%	22.6	62.6	0.9	100.0%	10.8%	24.7	51.6	12.5	0.4	100.0%
10,000-14,999	9.9%	19.1	70.5	0.5	100.0%	6.1%	17.7	57.3	18.6	0.3	100.0%
15,000-20,999	5.2%	11.5	82.1	1.2	100.0%	3.0%	10.8	50.6	34.5	1.1	100.0%
21,000 and over	3.9%	7.9	86.5	1.7	100.0%	2.1%	7.2	46.2	45.4	1.1	100.0%
Employer											
Private Manufactur.	12.3%	21.8	65.2	0.7	100.0%	6.0%	20.8	60.4	12.3	0.5	100.0%
Private Non-Manufact.	8.8%	16.2	72.8	2.2	100.0%	5.4%	14.1	48.4	30.6	1.5	100.0%
Agriculture	--	16.2	78.4	5.4	100.0%	--	2.7	48.7	46.0	2.5	100.0%
Elem-Second. Schools	10.0%	25.1	64.1	0.8	100.0%	7.7%	25.8	54.6	11.7	0.2	100.0%
Colleges-Universities	9.9%	23.9	65.4	0.8	100.0%	15.2%	29.6	47.7	6.4	1.1	100.0%
U.S. Military Service	26.7%	12.2	58.3	2.8	100.0%	28.3%	13.0	24.4	32.4	1.9	100.0%
Federal Government	15.5%	19.7	64.5	0.3	100.0%	10.7%	23.7	51.7	13.5	0.4	100.0%
State-Local Govt.	17.2%	22.9	59.5	0.4	100.0%	12.7%	28.5	49.9	8.7	0.2	100.0%
Research Organiz.	11.2%	21.8	66.7	0.3	100.0%	11.6%	22.5	58.3	7.4	0.2	100.0%
Hospital-Church Clin.	6.8%	12.3	78.8	2.1	100.0%	16.3%	26.0	36.1	20.3	1.3	100.0%

TABLE 8-7

Employers Alumni Now Prefer

(Those who desire a different type of employer only)

"Do you wish you were working for an employer other than your present one?... (What type of employer?)"

	Percent Actually Working for This Type of Employer (Total Sample)*	Percent Who Would Like to Work for This Type of Employer**
College or university	8.8%	35.1%
Private non-manufacturing	29.7	22.1
Private manufacturing	17.9	12.1
Hospital, Church, or Clinic	8.8	8.9
Federal government	5.5	8.7
Elem-Second. Schools	10.3	6.2
Research Organization	2.6	5.7
U.S. Military Service	4.5	0.5
State-Local Govt.	4.1	0.5
Agriculture	0.3	0.2
No Answer	7.5	--
Total	100.0%	100.0%

*The percentages of the total sample actually working for each type of employer are shown for purposes of comparison.

**This column is based upon responses from the 437 graduates who expressed a wish to change employers, and who specified what type of employer they would prefer.

Almost all alumni (97 percent) like the colleagues with whom they work (Table 8-10). Differences by year of graduation and by type of employer are slight. (Table 8-10 is on page 126.)

Satisfaction with subordinates is even greater (98 percent), (Table 8-11). The slight differences showed alumni who were employed by a military service or by a state or local government tend to be the least satisfied with their subordinates and those with an educational institution or research institute the most satisfied. (Table 8-11 is on page 127.)

Satisfaction with Income

Two-thirds of the alumni are generally satisfied with their income (Table 8-12). Not suprisingly, satisfaction with income is most pronounced among older alumni, who tend to earn the most money. (Table 8-12 is on page 127.)

When graduates with the longest career experience (fifteen years after finishing their baccalaureate) are studied, medical workers report the most satisfaction with their incomes and teachers at all levels, the least

TABLE 8-8

Satisfaction with Employer's Promotion Policy by Year of Graduation and Current Employer
(Those who responded "not applicable" omitted)

"How much do you like your employer's promotion policy?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	No Answer	Total	N
All Graduates	24.5%	36.8	21.1	10.2	7.4	100.0%	(8302)
Year of Graduation							
1948	24.9%	36.7	20.9	9.3	8.2	100.0%	(2667)
1953	25.3%	37.5	21.4	10.4	5.4	100.0%	(2776)
1958	23.4%	36.3	21.1	10.9	8.3	100.0%	(2858)
Current Employer							
Private Manufactur.	26.5%	38.4	23.9	9.4	1.8	100.0%	(1799)
Private Non-Manufact.	30.7%	32.2	17.5	8.4	11.2	100.0%	(2131)
Agricultural	35.7%	21.4	7.1	--	35.8	100.0%	(14)
Elem-Second. Schools	17.3%	41.2	25.5	13.3	2.7	100.0%	(873)
Colleges-Universities	21.7%	43.0	24.1	8.4	2.8	100.0%	(833)
U.S. Military	20.2%	32.5	25.2	18.4	3.7	100.0%	(440)
Federal Government	25.5%	44.0	20.6	9.0	0.9	100.0%	(568)
State-Local Govt.	18.5%	35.6	26.4	18.5	1.0	100.0%	(379)
Research Organiz.	25.9%	44.0	21.0	7.4	1.7	100.0%	(243)
Hospital-Church Clin.	26.7%	38.7	18.2	7.2	9.2	100.0%	(499)

(Table 8-13). Despite their relatively low salary levels, fewer clergymen dislike their income "greatly" than do any other occupational groups. Graduates working for research organizations and for private non-manufacturing are the most likely to be very satisfied with their incomes. Despite traditional reports to the contrary, federal government employees are less dissatisfied with their salaries than the average for all graduates. Satisfaction with income, not unexpectedly, rises with income. (Table 8-13 is on page 128.)

Satisfaction with Career Progress

Fortunately for the egos of the men involved and interestingly from a research point of view, the majority of the graduates rate their careers as more successful than those of their classmates. Two-thirds say their careers have "definitely" or "probably" been more successful, and less than one-third

TABLE 8-9

Satisfaction with Supervisors on Job by Year of Graduation and Current Employer
(Those who responded "not applicable" omitted)

"How much do you like . . . the supervisors for whom you work?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	Total	N
All Graduates	49.9%	38.9	8.8	2.4	100.0%	(8,806
Year of Graduation						
1948	50.6%	38.8	7.9	2.7	100.0%	(2,760
1953	48.8%	40.1	9.2	1.9	100.0%	(2,972
1958	48.6%	40.0	9.1	2.3	100.0%	(3,164
Employer						
Private Manufactur.	47.2%	39.9	10.8	2.1	100.0%	(1,817
Private Non-Manufact.	53.4%	36.8	8.0	1.8	100.0%	(2,09
Agriculture	66.7%	22.2	11.1	--	100.0%	(9
Elem-Second. Schools	45.1%	41.8	10.6	2.5	100.0%	(1,08
Colleges-Universities	53.6%	37.9	6.0	2.5	100.0%	(899
U.S. Military Service	36.9%	50.9	8.2	4.0	100.0%	(451
Federal Government	45.9%	43.4	7.9	2.8	100.0%	(587
State-Local Govt.	47.2%	41.5	8.6	2.7	100.0%	(417
Research Organiz.	52.5%	36.1	8.8	2.6	100.0%	(272
Hospital-Church Clin.	57.9%	34.7	5.8	1.6	100.0%	(722

say their careers have probably or definitely not been as successful (Table 8-14). Appraisals of success rise with income. By occupation medical workers, lawyers, and college professors feel they have been relatively the most successful; the least relative success is reported by elementary and secondary school teachers and clergymen. Surprisingly enough, time since graduation has little effect upon satisfaction with career progress. (Table 8-14 is on page 129.)

Despite this general satisfaction, a number of individual comments indicate considerable concern about careers:

> At age 40, I am not afraid to admit that I am no completely satisfied with what I am doing and would make a complete change if I had the opportunity. (Boston College)
>
> I have worked like a dog trying to make a career with no success. I have taught math in high school, farmed and ranched on a rather large scale, and operated an insurance agency. I have worked very hard and long for practically nothing. I don't really blame anybody but myself. (Colorado State University)

TABLE 8-10

Satisfaction with Colleagues on the Job by Year of Graduation and Current Employer

(Those who responded "not applicable" omitted)

"How much do you like . . . the colleagues who work with you?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	Total	N
All Graduates	54.2%	42.7	2.9	0.2	100.0%	(10,083)
Year of Graduation						
1948	55.5%	41.9	2.4	0.2	100.0%	(3,293)
1953	54.0%	43.0	2.8	0.2	100.0%	(3,417)
1958	53.8%	42.5	3.5	0.2	100.0%	(3,373)
Employer						
Private Manufactur.	51.6%	46.5	2.5	0.4	100.0%	(1,898)
Private Non-Manufact.	55.8%	41.1	3.0	0.1	100.0%	(2,921)
Agriculture	59.3%	37.0	3.7	--	100.0%	(27)
Elem-Second. Schools	52.0%	44.5	3.3	0.2	100.0%	(1,100)
Colleges-Universities	55.3%	42.6	2.0	0.1	100.0%	(942)
U.S. Military Service	53.5%	43.9	2.6	--	100.0%	(476)
Federal Government	51.7%	45.5	2.8	--	100.0%	(596)
State-Local Govt.	51.7%	45.2	2.9	0.2	100.0%	(441)
Research Organiz.	51.5%	43.8	4.3	0.4	100.0%	(278)
Hospital-Church Clin.	62.8%	35.2	2.7	0.3	100.0%	(879)

Satisfaction with career progress is influenced by future expectations as well as by past accomplishments. Two-thirds of the alumni expect a promotion in the next three years (Table 8-15), ranging from 74 percent of the youngest graduates to 58 percent of the oldest class. Federal employees anticipate the most promotions (89 percent), and elementary and secondary school employees, the least (53 percent). (Again, agricultural workers are disregarded here because of the small numbers involved.) By occupation, college professors, social service workers, and scientists and mathematicians expect the most promotions, and clergymen and elementary and secondary teachers, and medical workers, the least. (Table 8-15 is on page 130.)

Satisfaction with Undergraduate Education

In Chapter 4, alumni evaluated their liberal arts education as preparation for life. Now, they were asked how well liberal education had prepared them for careers--careers, it should be emphasized, which may pit them against specialists and technicians in competing for hiring and promotion.

TABLE 8-11

Satisfaction with Subordinates on the Job by Year of Graduation and Current Employer

(Those who responded "not applicable" omitted)

"How much do you like . . . the people who work for you?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	Total	N
All Graduates	51.1%	46.6	2.1	0.2	100.0%	(7997)
Year of Graduation						
1948	53.7%	44.8	1.4	0.1	100.0%	(2929)
1953	51.9%	46.2	1.7	0.2	100.0%	(2735)
1958	46.9%	49.4	3.2	0.5	100.0%	(2333)
Employer						
Private Manufactur.	48.6%	49.8	1.5	0.1	100.0%	(1530)
Private Non-Manufact.	50.0%	48.0	1.9	0.1	100.0%	(2621)
Agriculture	44.4%	51.9	--	3.7	100.0%	(27)
Elem-Second. Schools	57.8%	40.3	1.7	0.2	100.0%	(588)
Colleges-Universities	56.7%	41.1	1.9	0.3	100.0%	(633)
U.S. Military Service	41.8%	54.9	3.2	0.1	100.0%	(436)
Federal Government	46.0%	51.4	2.6	00	100.0%	(469)
State-Local Govt.	47.5%	48.5	3.1	0.9	100.0%	(356)
Research Organiz.	54.6%	43.6	1.8	--	100.0%	(218)
Hospital-Church Clin.	59.8%	38.1	1.7	0.4	100.0%	(742)

TABLE 8-12

Satisfaction with Income by Year of Graduation

"How much do you like . . . your income from your job?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	No Answer	Total
All Graduates	23.5%	42.5	19.8	8.6	5.6	100.0%
Year of Graduation						
1948	28.6%	44.7	17.5	5.7	3.5	100.0%
1953	24.1%	43.6	20.5	7.5	4.3	100.0%
1958	17.9%	39.3	21.2	12.3	9.3	100.0%

TABLE 8-13

Satisfaction with Income by Current Occupation, Employer, and Income
(1948 Graduates Only)

"How much do you like . . . your income from your job?"

	Very Much	Fairly Much	Dislike Slightly	Dislike Greatly	No Answer	Total
All Graduates	28.6%	44.7	17.5	5.7	3.5	100.0%
Occupation						
Lawyer	35.5%	42.7	12.3	6.2	3.5	100.0%
Clergyman	26.7%	39.7	22.6	2.1	8.9	100.0%
Elem-Second. Teach.	15.6%	48.1	23.9	9.5	2.9	100.0%
College Teacher	21.4%	42.0	26.5	7.8	2.3	100.0%
Salesman	27.4%	46.3	17.8	6.2	2.3	100.0%
Social Serv. Worker	27.7%	51.1	13.9	5.1	2.2	100.0%
Medical Worker	57.1%	29.3	5.6	2.6	5.5	100.0%
Scientist-Math.	27.0%	52.5	14.9	4.3	1.2	100.0%
Fiscal-Office-Mgmt.	31.3%	45.4	16.5	4.8	2.0	100.0%
Creative Worker	21.5%	44.2	25.8	6.1	2.5	100.0%
Other	25.6%	49.2	18.3	3.7	3.2	100.0%
Employer						
Private Manufactur.	27.4%	48.4	19.0	4.2	1.0	100.0%
Private Non-Manufact.	31.7%	42.1	17.5	5.8	2.9	100.0%
Agriculture	21.6%	48.7	16.2	2.7	10.8	100.0%
Elem-Second. Schools	10.4%	40.5	29.3	17.9	1.9	100.0%
Colleges-Universities	15.7%	44.3	25.8	10.4	3.8	100.0%
U.S. Military Service	19.6%	48.6	21.3	6.4	4.1	100.0%
Federal Government	26.0%	54.2	15.2	3.2	1.4	100.0%
State-Local Govt.	16.3%	45.4	24.3	13.1	0.9	100.0%
Research Organiz.	33.3%	47.4	13.0	4.2	2.1	100.0%
Hospital-Church Clin.	20.6%	34.2	20.7	15.7	8.8	100.0%
Income						
Under $6,000	8.2%	21.9	24.6	33.3	11.0	100.0%
6000,9999	13.8%	48.0	27.9	8.9	1.4	100.0%
10,000-14,999	31.6%	50.8	14.0	2.5	1.1	100.0%
15,000-20,999	46.2%	45.4	5.6	1.2	1.6	100.0%
$21,000 and over	68.3%	27.0	2.3	0.5	1.9	100.0%

TABLE 8.14

Self-Appraisal of Career Success by Year of Graduation, Current Income, and Occupation

"Contrasted with your college classmates, would you say that your career had been more successful?"

	Definitely Yes	Probably Yes	Probably No	Definitely No	No Answer	Total
All Graduates	13.2%	53.2	28.1	2.2	3.3	100.0%
Year of Graduation						
1948	12.9%	53.4	29.4	2.1	2.2	100.0%
1953	13.4%	53.3	28.6	2.3	2.4	100.0%
1958	13.4%	52.8	26.5	2.1	5.2	100.0%
Current Income						
Under $6000	13.5%	42.1	35.7	5.7	3.0	100.0%
6000-9999	7.5%	51.3	37.2	2.3	1.7	100.0%
10,000-14,999	12.9%	62.7	22.7	.5	1.2	100.0%
15,000-20,999	26.3%	65.0	7.7	--	1.0	100.0%
21,000 and over	37.8%	56.7	4.2	.2	1.1	100.0%
Occupation						
Lawyer	18.3%	64.1	15.6	1.0	1.0	100.0%
Clergyman	8.1%	49.4	37.8	1.4	3.3	100.0%
Elem-Second. Teach.	8.8%	48.8	38.6	1.5	2.3	100.0%
College Teacher	16.3%	60.3	18.0	1.8	3.6	100.0%
Salesman	13.9%	51.6	31.1	2.0	1.4	100.0%
Social Serv. Worker	10.7%	55.1	30.1	1.8	2.3	100.0%
Medical Worker	28.4%	59.1	10.2	0.2	2.1	100.0%
Scientist-Math.	9.2%	56.4	31.4	1.5	1.5	100.0%
Fiscal-Office-Mgmt.	12.4%	51.6	32.1	2.3	1.6	100.0%
Creative Worker	14.0%	49.4	31.2	2.8	2.6	100.0%
Other	8.3%	56.2	30.7	3.8	1.0	100.0%

TABLE 8-15

Expectation of Promotion by Year of Graduation, Current Employer, and Occupation

"In the next three years, do you expect to receive a promotion?"

	Definitely Yes	Probably Yes	Probably No	Definitely No	No Answer	Total
All Graduates	30.8%	36.5	19.2	9.1	4.4	100.0%
Year of Graduation						
1948	19.1%	38.7	25.3	12.8	4.1	100.0%
1953	30.5%	39.3	18.4	8.4	3.4	100.0%
1958	42.2%	31.8	14.1	6.3	5.6	100.0%
Employer						
Private Manufactur.	34.9%	44.9	15.9	3.1	1.2	100.0%
Private Non-Manufact.	27.9%	32.3	18.0	16.5	5.3	100.0%
Agriculture	13.5%	21.6	35.1	24.3	5.5	100.0%
Elem-Second, Schools	15.3%	37.7	38.3	7.3	1.4	100.0%
Colleges-Universities	37.6%	42.8	16.4	2.6	0.6	100.0%
U.S. Military Service	32.9%	30.8	19.0	15.3	2.0	100.0%
Federal Government	47.3%	41.8	9.5	1.4	--	100.0%
State-Local Govt.	31.2%	40.1	21.8	5.8	1.1	100.0%
Research Organiz.	33.0%	45.3	17.9	2.8	1.0	100.0%
Hospital-Church Clin.	31.6%	32.7	22.6	9.5	3.6	100.0%
Occupation						
Lawyer	30.9%	30.2	16.5	14.5	7.9	100.0%
Clergyman	13.1%	43.2	30.4	10.0	3.3	100.0%
Elem-Second. Teach.	18.9%	37.6	35.1	6.8	1.6	100.0%
College Teacher	34.3%	44.5	17.9	3.0	0.3	100.0%
Salesman	30.9%	39.5	19.0	7.2	3.4	100.0%
Social Serv. Worker	39.9%	41.5	14.1	4.1	0.4	100.0%
Medical Worker	33.3%	17.5	12.5	30.7	6.0	100.0%
Scientist-Math.	33.4%	45.7	17.4	2.9	0.6	100.0%
Fiscal-Office, Mgmt.	33.7%	38.9	17.7	7.8	1.9	100.0%
Creative Worker	30.5%	42.4	17.7	6.3	3.1	100.0%
Other	36.4%	36.9	17.9	7.5	1.3	100.0%

While some graduates are dissatisfied with liberal education as preparation for vocational life, almost three times as many are pleased (Table 8-16).

TABLE 8-16

Appraisal of Liberal Education as Preparation for Vocational Life by Year of Graduation, Type of Major, Academic Record, Control, and Size of College

"To what extent do you agree or disagree with . . . the following statement about your undergraduate training: I received good preparation for my vocational life?"

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	16.8%	55.9	21.6	4.9	0.8	100.0%
Year of Graduation						
1948	16.7%	57.2	20.3	4.7	1.1	100.0%
1953	17.2%	54.5	22.7	5.1	0.5	100.0%
1958	16.5%	55.9	21.9	4.9	0.8	100.0%
Type of Major						
Social Sciences	13.9%	55.7	24.4	5.2	0.8	100.0%
Humanities	19.3%	51.6	22.3	5.8	1.0	100.0%
Science and Math.	19.5%	58.6	17.4	4.0	0.5	100.0%
Academic Record						
High	24.1%	57.3	16.1	2.1	0.4	100.0%
Average	18.0%	56.9	19.8	4.4	0.9	100.0%
Low	12.9%	54.3	25.8	6.3	0.7	100.0%
Control of College						
Catholic	21.0%	55.4	18.2	4.6	0.8	100.0%
Public	13.9%	56.9	23.2	5.3	0.7	100.0%
Private	17.9%	55.2	21.3	4.7	0.9	100.0%
Size of College						
Small	19.1%	57.7	18.9	3.6	0.7	100.0%
Medium	16.2%	55.9	21.8	5.2	0.9	100.0%
Large	14.6%	53.4	25.0	6.2	0.8	100.0%

Differences in satisfaction by year of graduation are very slight. Science and mathematics majors are somewhat more satisfied with their liberal arts training than are humanities alumni, with social science graduates the least satisfied.

Satisfaction with undergraduate training is closely related to academic record; the best students are much more satisfied than are lower-ranking undergraduates. Men from Catholic institutions are somewhat more satisfied with their educational preparation than are those from public or private colleges. Alumni from the smaller colleges are more satisfied with their educational background than are those from medium or large-sized institutions.

To obtain the most meaningful assessment of liberal education in terms of current occupation, the graduates who had been in the work force the longest time were studied. Among these graduates, medical workers and clergymen are found to be most pleased with liberal education as vocational preparation, followed by college teachers (Table 8-17). Salesmen and fiscal, office, and

---

TABLE 8-17

Appraisal of Liberal Education as Preparation for Vocational Life by Current Occupation
(1948 graduates only)

"To what extent do you agree or disagree with the following statement about your undergraduate training: I received good preparation for my vocational life?"

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Answer	Total
All Graduates	16.7%	57.2	20.3	4.7	1.1	100.0%
Occupation						
Lawyer	18.4%	55.7	20.6	4.0	1.3	100.0%
Clergyman	28.1%	59.6	11.6	--	0.7	100.0%
Elem-Second. Teach.	16.3%	64.2	14.2	4.4	0.9	100.0%
College Teacher	22.2%	58.0	14.4	3.1	2.3	100.0%
Salesman	7.6%	51.1	34.8	5.4	1.1	100.0%
Social Serv. Worker	16.8%	59.9	19.0	3.7	0.6	100.0%
Medical Worker	31.1%	53.9	11.4	3.6	--	100.0%
Scientist-Math.	18.3%	63.4	14.0	4.1	0.2	100.0%
Fiscal-Office-Mgmt.	12.2%	55.5	26.0	6.1	0.2	100.0%
Creative Worker	15.3%	50.3	26.4	4.9	3.1	100.0%
Other	11.0%	59.5	22.3	6.3	0.9	100.0%

management workers are the least satisfied. While not shown, current income shows very little relation to satisfaction with undergraduate preparation.

Alumni had many comments to make regarding the adequacy of liberal arts education for a life of work. The more negative included:

> I would advise today's students not to waste time on liberal arts. Today's world is a very hard one and one must have a skill to obtain a job. (New York University)
>
> Everyone needs two educations--one with which to earn a living and the other to make life ruch and full. (University of Southern California)
>
> Liberal arts gives an invaluable appreciation of our culture, but is very poor background for making a living. (Washington University)
>
> Liberal arts contributes to fascinating undergraduate discussions. But what is the graduate to do when he has to support a family? Perhaps he can become a school teacher, as I did. But then he can't afford the very things he has learned to appreciate. (Arizona State University)

Equally strong, and much more numerous, comments defend the vocational results of a liberal education.

> College didn't fit me for any certain career, but it taught me how to learn. (Fresno State College)
>
> Stick to your educational goals and avoid treating college as a trade school. (Oberlin College)
>
> Most of the fields I have worked in are not covered by specific college courses. (Colorado State University)
>
> The world is changing too fast to tie yourself to a career. The best a person can do is to select the broadest possible field. The one in which I am now working didn't exist 30 years ago--and was only added to the curriculum at my Alma Mater five or six year ago. The solution is to prepare for a career by learning as much as you can about as many things as you can encompass. (Wayne State University)

The alumni were asked to comment on the extent to which their current job used certain skills usually provided by a liberal education (Table 8-18). While less than 10 percent say they now use a foreign language, almost all utilized both writing (76 percent) and creative thinking (84 percent). Foreign language is most used by clergymen and college professors. Writing is particularly important to those working as lawyers, clergymen, social service workers, and creative workers. While most graduates agree their job requires creative thinking, this is particularly true of lawyers, clergymen, and those in creative fields.

TABLE 8-18

Extent to Which Job Uses Liberal Education Skills by Current Occupation

	"Does your position involve speaking, reading, or writing a foreign language?"						"Does your work involve much writing"					
	Quite a Lot	A Fair Amount	A Little	None	No Answer	Total	Quite a Lot	A Fair Amount	A Little	None	No Answer	Total
All Graduates	4.9%	4.3	19.4	68.6	2.8	100.0%	41.0%	35.4	18.2	3.1	2.3	100.0%
Occupation												
Lawyer	2.6%	2.0	16.2	77.8	1.4	100.0%	79.8%	16.4	2.8	0.4	0.6	100.0%
Clergyman	14.5%	10.7	36.3	37.8	0.7	100.0%	60.6%	31.6	7.1	0.2	0.5	100.0%
Elem-Second. Teach.	8.6%	4.1	18.4	67.9	1.0	100.0%	34.5%	38.5	23.4	3.2	0.4	100.0%
College Teacher	11.4%	10.0	34.3	44.0	0.3	100.0%	46.1%	37.7	14.5	1.4	0.3	100.0%
Salesman	2.7%	1.8	7.2	86.9	1.4	100.0%	27.9%	41.2	25.9	4.4	0.6	100.0%
Social Serv. Worker	3.2%	3.0	18.5	74.7	0.6	100.0%	57.2%	34.6	8.0	0.2	--	100.0%
Medical Worker	1.8%	3.6	25.0	68.2	1.4	100.0%	29.2%	37.0	27.4	5.3	1.1	100.0%
Scientist-Math.	2.0%	6.7	31.9	58.9	0.5	100.0%	33.9%	47.1	17.6	1.3	0.1	100.0%
Fiscal-Office-Mgmt.	3.2%	2.6	10.5	83.3	0.4	100.0%	36.4%	38.7	21.7	2.9	0.3	100.0%
Creative Worker	4.4%	3.5	21.0	69.0	2.1	100.0%	62.2%	20.1	12.8	3.7	1.2	100.0%
Other	4.8%	4.3	16.7	73.3	0.9	100.0%	41.5%	32.5	18.7	6.6	0.8	100.0%

	"Does your work involve much creative thinking?"					
	Quite a Lot	A Fair Amount	A Little	None	No Answer	Total
All Graduates	54.1%	30.3	10.4	2.5	2.7	100.0%
Occupation						
Lawyer	74.2%	20.3	3.8	1.0	0.7	100.0%
Clergyman	86.0%	12.1	1.2	--	0.7	100.0%
Elem-Second. Teacher	57.9%	32.5	7.6	0.9	1.1	100.0%
Colleges-Teacher	66.7%	26.3	5.8	0.5	0.7	100.0%
Salesman	51.5%	34.9	10.5	2.4	0.7	100.0%
Social Serv. Worker	61.5%	28.0	8.7	1.4	0.4	100.0%
Medical Worker	35.7%	38.1	19.5	5.1	1.6	100.0%
Scientist-Math.	58.9%	31.1	8.3	1.0	0.7	100.0%
Fiscal-Office-Mgmt.	43.1%	37.1	15.1	4.0	0.7	100.0%
Creative Worker	72.5%	19.8	6.5	0.5	0.7	100.0%
Other	45.8%	32.6	15.0	5.2	1.3	100.0%

Comments from individual alumni stress the importance they place upon the ability to communicate, both orally and in writing.

> I have observed that time and time again those who are able to express themselves clearly and simply--in either the spoken or written word--move ahead most rapidly. (Hamline University)
>
> Although I am a successful salesman, my inability to speak to a large group of people has been my worst career difficulty. (University of Dayton)
>
> One of my key problems as a chemist has been to summarize in a clear, concise form the most pertinent information needed for the reader or audience. (Wayne State University)
>
> The ability to communicate is the single most important asset an individual can have. (Rutgers University)

Satisfaction with Graduation Education

Graduate education is rated as important in their careers by 85 percent of the alumni (Table 8-19). The greatest utility is assigned by those who earned the highest degrees: 99.6 percent of those with a doctorate feel graduate training is useful or at least desirable in their work. Even among those with only a bachelor's degree, over two-thirds rate advanced education as at least desirable. (Table 8-19 is on page 136.)

While 92 percent of the science and mathematics majors feel graduate training is essential or desirable, less interest is shown by those who studied social sciences (81 percent) or humanities (80 percent). Those who earned the best grades as undergraduates have the highest respect for graduate training.

Significant distinctions are shown by occupations. Men employed in what are essentially business operations (sales and fiscal, office, and management), or in creative fields are the least likely to feel that advanced education is important. As anticipated, professionals in fields which require specific advanced education (law, college teaching, and medicine) show the strongest appreciation for such training.

Another question asked alumni with graduate training whether they thought such training has helped them to avoid being stranded at a low level in their field (Table 8-20). More than two-thirds of the respondents agree that this has been the case. Again, science and mathematics majors and those who held the highest degrees are the most likely to credit graduate training with helping them in career advancement. By occupation, medical workers and college professors agree most strongly that graduate training has been helpful to their careers, while salesmen and fiscal, office, and management workers and creative workers are the most likely to question its value to them. (Table 8-20 is on page 137.)

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TABLE 8-19

Appraisal of Graduate Training as Help in Career by Academic Record, Type of Major, Amount of Graduate Training, and Current Occupation

"Generally speaking, do you feel that advanced academic training is important to people working in your field?"

	Yes, essential	Yes, desirable	No, only slightly helpful	No, of no use at all	No Answer	Total
All Graduates	54.8%	29.7	12.7	2.6	0.3	100.0%
Academic Record						
High	72.2%	20.1	6.1	1.5	0.1	100.0%
Average	57.7%	29.1	10.8	2.1	0.3	100.0%
Low	44.0%	35.0	17.6	3.0	0.4	100.0%
Type of Major						
Science-Math	65.4%	26.7	6.6	1.1	0.2	100.0%
Social Sci.	48.7%	32.3	15.7	2.9	0.4	100.0%
Humanities	51.2%	28.4	15.8	4.4	0.2	100.0%
Amount of Graduate Training*						
None	24.3%	44.3	25.7	5.3	0.5	100.0%
Some, but no advanced degree	45.2%	36.6	13.6	4.3	0.3	100.0%
Master's Degree	68.3%	25.6	5.2	0.8	0.1	100.0%
Professional Degree	80.7%	14.1	4.3	0.7	0.2	100.0%
Doctorate	94.3%	5.3	0.1	0.1	0.2	100.0%
Occupation						
Lawyer	79.7%	11.2	7.9	1.0	0.2	100.0%
Clergymen	69.1%	27.8	2.9	--	0.2	100.0%
Elem-Second. Teacher	72.7%	23.4	3.3	0.2	0.4	100.0%
College Teacher	88.4%	10.3	1.2	--	0.1	100.0%
Salesman	16.2%	42.2	33.1	8.2	0.3	100.0%
Social Serv. Worker	76.8%	18.2	3.4	1.4	0.2	100.0%
Medical Worker	88.2%	9.4	2.3	--	0.1	100.0%
Scientist-Math.	60.1%	33.7	5.6	0.6	0.0	100.0%
Fiscal-Office-Mgmt.	23.9%	45.2	24.6	6.0	0.3	100.0%
Creative	21.5%	39.9	33.1	5.4	0.1	100.0%
Other	37.2%	45.4	15.0	2.1	0.3	100.0%

*In this and several succeeding tables, the variable "amount of Graduate Training" is employed instead of the more customary "Highest Degree Earned." This permits a separate examination of those bachelor's degree holders who took no advanced study and for those who took some advanced study but received no advanced degree.

TABLE 8-20

Role of Graduate Study in Career Level by Type of Major, Amount of Graduate Training, and Current Occupation

(7434 alumni who attended graduate or professional School only)

"Please indicate the extent to which you agree or disagree with ... the following statement...Graduate study helped me avoid being stuck at a low level in my field."

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
All Graduates	38.4%	29.2	14.5	13.6	4.3	100.0%
Type of Major						
Science-Math	45.9%	29.4	11.8	10.2	2.7	100.0%
Social Sciences	35.1%	28.3	15.9	15.8	4.9	100.0%
Humanities	31.8%	30.9	16.3	15.3	5.7	100.0%
Amount of Graduate Training						
Some grad training but no advanced degree	17.4%	25.7	18.5	28.1	10.3	100.0%
Master's degree	34.1%	38.5	10.8	13.4	3.2	100.0%
Professional degree	48.0%	24.0	19.1	6.6	2.3	100.0%
Doctorate	70.9%	22.6	3.8	2.0	0.7	100.0%
Occupation						
Lawyer	48.1%	21.4	21.6	6.9	2.0	100.0%
Clergyman	31.7%	36.7	18.4	9.9	3.3	100.0%
Elem-Second. Teacher	33.3%	39.9	11.4	13.1	2.3	100.0%
College Teacher	55.0%	32.4	6.7	4.2	1.7	100.0%
Salesman	7.7%	20.5	20.2	35.6	16.0	100.0%
Social Serv. Worker	53.8%	28.3	6.5	9.8	1.6	100.0%
Medical Worker	59.3%	20.9	15.5	2.6	1.7	100.0%
Scientist-Math	42.8%	31.7	8.9	13.5	3.1	100.0%
Fiscal-Office-Mgmt.	16.2%	28.8	18.2	27.0	9.8	100.0%
Creative Worker	13.9%	22.4	17.2	32.6	13.9	100.0%
Other	23.2%	28.0	18.0	24.8	6.0	100.0%

Summary

Most alumni feel their liberal arts background has provided good preparation for vocational life. Graduates with high academic records and those who studied science and mathematics are the most satisfied. Graduates of Roman Catholic schools tend to be more pleased with liberal arts as vocational preparation than are those from public or private schools. Alumni from smaller colleges are more satisfied than those from large institutions.

There is general agreement that effective writing and creative thinking--considered prime goals of liberal education--are important career assets. Seventy-six percent of the graduates say their work involves writing, and 84 percent say their work involves creative thinking. Additional comments by the alumni stress the importance of effective self-expression in vocational life.

Graduate training is also highly valued--84 percent of the graduates rate it as essential or desirable for people working in their fields. Three-quarters of those alumni who have taken graduate work say that graduate training has helped them to avoid being stuck at a low level in their fields.

Most of the graduates express general satisfaction with their jobs. Only one out of ten graduates definitely wishes he were in another occupation or working for another employer. College teachers, medical workers, and clergymen are the most satisfied with their occupational choices. Salesmen, scientists and mathematicians, social service workers, and fiscal, office, and management workers are the least satisfied. There is a high correlation between job satisfaction and income.

Twenty percent of the younger alumni and 12 percent of the older alumni say they may change their occupational field. They would now elect law, college teaching, medical work, or creative fields. They tend to reject (or to elect in smaller proportions than are now employed in) sales, science and mathematics careers, and fiscal, office, and management work. For those expressing a desire to change employers, by a wide margin the most desirable new employer is college or university.

Satisfaction with income is generally high. Less than a third of the graduates dislike, even slightly, the income from their jobs. The least satisfied with their income are elementary and secondary teachers and college teachers.

Strong satisfaction is reported with supervisors, colleagues, and subordinates on the job. Only 11 percent express dislike of their supervisors, and only three percent indicate dislike of colleagues or subordinates.

In evaluating possible job characteristics, the graduates show a strong desire for positions where they can use their special abilities, be creative and original, help others, and enjoy a stable future. Less important to them are social status and the chance to earn a great deal of money. Appraising their own jobs in the light of these characteristics, the graduates find them somewhat short of ideal but, nevertheless, rating fairly high in all the same characteristics judged most important except one: the opportunity to be creative and original.

The alumni enjoy a sense of success in their careers. Two-thirds say their own careers are either definitely or probably more successful than those of their classmates.

PART IV: THEIR ROLES IN SOCIETY

Proponents of liberal education cite its value in preparing students for a fuller utilization of our culture, a deeper appreciation of our heritage, and a more meaningful participation in the civic life of the society. Many feel liberal education ought also to be the source of spiritual and moral values. The next three chapters examine these issues in terms of the lives of the liberal arts graduates studied.

Despite the frequent references to the role of college in developing lifetime cultural and intellectual interests, little concrete evidence exists on this subject. Chapter 9 explores the cultural and intellectual lives of liberal arts graduates, both as the consumers and the producers of culture and the world of ideas. Are many alumni still pursuing formal study? How often do they attend concerts, operas, theatre, and lectures? What and how much does the graduate read? How many give speeches, write articles, and author books?

In an earlier era, citizenship was restricted to the educated. Civic and social lives of alumni are covered in Chapter 10. To what extent do liberal arts alumni participate in political activities and what are their current political preferences? What types of community activities attract the graduates and to what extent? How do alumni appraise their current religious interests and how have they changed since college? Are the graduates in contact with their Alma Mater?

Marriage is often presented as the single most important decision of a man's life, with selection of a career a close second. Marriage, family, and the role of the wife are discussed in Chapter 11. What kinds of women do liberal arts graduates marry? Do alumni discuss career problems with their wives and, importantly, do they follow their advice?

Chapter 9: Intellectual and Cultural Interests of Liberal Arts Graduates

Educators agree that college should be a prelude to a life of meaningful intellectual and cultural activity. Yet there has been little relevant data for assessing the extent to which collegiate education is followed by a lifetime of continued study and growth.

Continued Education

Despite the lapse of time since the baccalaureate, 8 percent of the graduates still are students. This ranges from 13 percent of the alumni of give years earlier to 6 percent of the ten year class, to 3 percent of the graduates of 15 years earlier.

Many still plan additional study: 8 percent say they may enroll as full-time students during the next three years (Table 9-1). Four percent of

TABLE 9-1

Plans for Additional Full-time Study by Year of Graduation, Academic Record, and Current Occupation

"In the next three years, do you expect to enroll as a full-time student?"

	Definitely Yes	Probably Yes	Probably No	Definitely No	No Answer	Total
All Graduates	3.5%	4.9	30.4	59.1	2.1	100.0%
Year of Graduation						
1948	1.2%	2.6	25.2	70.0	1.0	100.0%
1953	2.6%	4.3	31.3	60.7	1.2	100.0%
1958	6.5%	7.6	34.5	47.1	4.3	100.0%
Academic Record						
High	5.0%	4.0	23.8	63.0	4.3	100.0%
Average	3.6%	4.6	32.0	57.8	2.1	100.0%
Low	3.1%	5.6	31.9	57.8	1.6	100.0%
Current Occupation						
Lawyer	0.4%	0.3	18.7	80.1	0.5	100.0%
Clergyman	2.9%	5.5	48.5	42.5	0.7	100.0%
Elem-Second. Teacher	4.2%	10.6	43.3	41.5	0.4	100.0%
College Teacher	4.7%	6.8	24.5	62.9	1.1	100.0%
Salesman	0.9%	1.6	26.6	70.4	0.5	100.0%
Social Serv. Worker	5.7%	8.7	34.2	51.4	--	100.0%
Medical Worker	4.7%	3.5	18.2	72.2	1.4	100.0%
Scientist-Math.	1.9%	3.5	34.1	60.1	0.4	100.0%
Fiscal-Office-Mgmt.	0.8%	2.4	31.3	65.0	0.5	100.0%
Creative Worker	0.5%	2.8	25.9	70.2	0.6	100.0%
Other	4.1%	8.6	36.0	50.9	0.4	100.0%

the 1948 alumni still are considering additional full-time study. Teachers, social service workers, and medical workers are the most likely to contemplate further full-time training. The least interested are lawyers, salesmen, fiscal, office, and management workers, and creative workers.

As was shown in Chapter 3 (Table 3-10), 21 percent of the alumni expect to receive an additional degree in the next few years--10 percent of those out 15 years, 17 percent of ten years, 35 percent of five. Many of these, it should be pointed out, will receive their degrees as a result of part-time study.

Among the comments made by graduates on the need for additional education were the following:

> Continued education is necessary to keep pace with modern technology. (Stanford University)
>
> Education does not stop with graduation from college. I read a number of periodicals and three or four good books each month. Education is only a ticket to a full life, not an all-expenses guided tour. (Miami University)
>
> The problem of constant, continuing education is one of the most difficult problems of the present and future. One must remain a perpectual student. (Stanford University)

Intellectual and Cultural Discussions

Four out of every ten alumni now are participating in literary, art, discussion, or study groups (Table 9-2). Older graduates are somewhat more likely to participate in such groups. Among those who majored in the humanities 53 percent participate now in discussion groups in contrast to 34 percent of former science and mathematics students. While not shown, graduates who had high academic records or who hold doctor's degrees are more likely to take part in discussion groups. (Table 9-2 is on page 143.)

Over half of the clergymen, elementary and secondary school teachers, college professors, and social service workers belong to a formal discussion group. The least frequent participants are salesmen, fiscal, office, and management workers, and scientists and mathematicians.

Reading of Books and Periodicals

Despite the many demands on their time, alumni read fairly extensively. The next three tables indicate the extent of reading books related to work (Table 9-3), general non-fiction (Table 9-4), and fiction (Table 9-5). (Table 9-3 is on page 144. Table 9-4 is on page 145. Table 9-5 is on page 145.)

In all, the typical graduate reads between 11 and 15 books a year, slightly less than half related to his work. Nearly a quarter of the alumni read more than 15 job-related books. Somewhat less reading of fiction was reported--43 percent read five or more fiction works in the twelve-month period and 16 percent read

TABLE 9-2

Alumni Participation in Discussion Groups by Year of Graduation, Type of Major, and Current Occupation

"During the past 12 months have you . . . participated in a literary, art, discussion, or study group?"

	Yes	No	No Answer	Total
All Graduates	38.8%	60.3%	0.9	100%
Year of Graduation				
1948	41.0%	58.0	1.0	100%
1953	38.9%	60.1	1.0	100%
1958	36.6%	62.6	0.8	100%
Type of Major				
Science and Math.	33.6%	65.5	0.9	100%
Social Science	36.8%	62.2	1.0	100%
Humanities	52.7%	46.5	0.8	100%
Occupation				
Lawyer	32.9%	66.3	0.8	100%
Clergyman	77.4%	22.1	0.5	100%
Elem-Second. Teach.	54.7%	44.2	1.2	100%
College Teacher	63.8%	36.1	0.2	100%
Salesman	25.6%	73.3	1.1	100%
Social Serv. Worker	50.3%	49.4	0.2	100%
Medical Worker	41.0%	58.1	0.9	100%
Scientist-Math.	26.4%	72.7	0.9	100%
Fiscal-Office-Mgmt.	27.7%	71.5	0.8	100%
Creative Worker	43.1%	56.4	0.5	100%
Other	27.2%	72.2	0.7	100%

more than 15 books of fiction. Non-fiction (other than books related to work) was the least heavily-read--only 36 percent of the graduates read five or more such books during the year and only 11 percent read more than 15 non-fiction works.

Younger alumni tend to read the most job-related books. College and university professors and clergymen do the most reading in their field and

TABLE 9-3

Reading of Books Related to Work by Year of Graduation, Current Employer, and Occupation

	Number of Books Read During the Year								
	None	1-2	3-4	5-7	8-10	11-15	Over 15	No Answer	Total
All Graduates	8.4%	21.4	20.0	12.6	9.3	4.2	23.2	0.9	100.0%
Year of Graduation									
1948	8.7%	23.0	21.2	12.4	9.3	4.1	19.8	1.5	100.0%
1953	9.1%	22.4	19.7	12.8	9.3	4.3	21.8	0.6	100.0%
1958	7.4%	18.9	19.2	12.5	9.3	4.1	27.8	0.8	100.0%
Employer									
Private Manufactur.	14.0%	31.6	21.8	10.6	7.5	2.6	10.8	1.0	100.0%
Private Non-Manuf.	12.8%	26.9	20.4	11.1	6.3	2.9	18.7	0.9	100.0%
Agriculture	16.2%	21.6	16.2	8.1	10.8	-	18.9	8.1	100.0%
Elem-Second. Sch.	3.8%	18.4	24.8	17.1	13.7	4.5	16.8	0.9	100.0%
Coll-Univ.	0.7%	6.4	13.3	14.3	12.1	5.4	47.1	0.7	100.0%
U.S. Mil.	3.1%	12.4	22.1	13.8	12.8	6.0	28.9	0.9	100.0%
Federal Govt.	9.3%	26.8	21.2	12.2	8.0	4.7	17.2	0.6	100.0%
State-Local Govt.	6.9%	23.6	22.9	14.7	9.8	3.1	18.0	1.0	100.0%
Research Org.	4.2%	21.4	26.7	13.3	9.1	3.2	21.8	0.3	100.0%
Hosp-Ch-Clin.	1.8%	9.2	16.3	13.9	13.3	9.2	35.3	1.0	100.0%
Occupation									
Lawyer	5.1%	18.0	20.2	11.5	7.7	2.7	34.4	0.4	100.0%
Clergyman	0.2%	3.1	8.1	14.7	15.9	14.7	42.0	1.3	100.0%
Elem-Second. Teach.	3.3%	16.6	23.5	15.4	13.8	4.6	21.9	0.9	100.0%
College Teacher	0.4%	5.4	12.8	14.5	11.6	6.8	47.8	1.7	100.0%
Salesman	16.5%	31.6	21.5	10.5	5.7	2.6	10.4	1.2	100.0%
Social Ser.	4.6%	16.0	18.5	17.8	12.8	6.2	23.7	0.4	100.0%
Medical Worker	2.8%	15.8	19.7	15.0	9.7	5.2	31.4	0.4	100.0%
Scientist-Math.	7.9%	25.2	23.5	11.1	9.9	3.3	18.4	0.7	100.0%
Fis-Off-Mgt.	16.7%	32.8	21.1	10.0	6.4	2.3	9.6	1.1	100.0%
Creative Worker	11.2%	26.3	19.4	12.8	5.6	2.6	21.2	0.9	100.0%
Other	10.4%	23.8	22.6	13.1	8.3	3.6	17.3	0.9	100.0%

salesmen and fiscal, office, and management workers read the least. Despite wide fluctuations by occupation, every field has about 10 percent or more graduates who read more than 15 books related to their work during the year. While not shown, income level is not related to professional reading.

Graduates with high academic records are somewhat more likely to do non-vocational reading (both fiction and non-fiction). There is a somewhat stronger

TABLE 9-4

Reading of Non-Fiction Books by Year of Graduation, Academic Record, and Type of Major

	Number of Books Read During Year								
	None	1-2	3-4	5-7	8-10	11-15	Over 15	No Answer	Total
All Graduates	11.6%	27.4	22.8	13.2	8.5	3.6	11.2	1.7	100.0%
Year of Graduation									
1948	10.9%	26.3	22.7	13.5	8.7	3.9	12.0	2.0	100.0%
1953	12.2%	29.6	22.6	12.4	8.4	3.3	9.6	1.9	100.0%
1958	11.7%	26.3	23.0	13.5	8.4	3.7	12.0	1.4	100.0%
Academic Record									
High	8.6%	24.9	23.5	14.4	9.9	4.7	12.2	1.8	100.0%
Average	10.9%	27.8	23.3	13.4	8.4	3.2	11.5	1.5	100.0%
Low	14.9%	23.1	22.2	12.1	8.2	3.3	9.3	1.9	100.0%
Type of Major									
Science-Math	13.5%	31.6	22.9	12.2	7.2	3.0	8.0	1.6	100.0%
Social Sci.	11.5%	26.4	23.0	13.6	8.7	3.9	11.1	1.8	100.0%
Humanities	8.7%	22.5	21.9	13.8	10.2	4.2	17.0	1.7	100.0%

TABLE 9-5

Reading of Fiction Books by Year of Graduation, Academic Record, and Type of Major

	Number of Books Read During the Year								
	None	1-2	3-4	5-7	8-10	11-15	Over 15	No Answer	Total
All Graduates	15.0%	21.2	18.9	12.9	9.1	5.2	15.8	1.8	100.0%
Year of Graduation									
1948	14.6%	20.5	19.6	12.9	9.6	5.1	15.4	2.3	100.0%
1953	16.5%	22.9	19.3	12.6	8.3	4.5	14.4	1.5	100.0%
1958	14.1%	20.3	17.9	13.2	9.4	6.1	17.5	1.5	100.0%
Academic Record									
High	12.9%	21.8	16.8	12.1	11.5	6.2	16.8	1.9	100.0%
Average	14.2%	21.7	19.8	12.5	9.7	5.0	15.4	9.7	100.0%
Low	18.8%	22.7	18.0	12.2	7.7	4.5	14.3	1.8	100.0%
Type of Major									
Science-Math.	17.7%	24.3	19.0	12.8	8.1	4.1	12.6	1.4	100.0%
Social Sci.	15.2%	20.2	19.7	12.9	9.5	5.5	15.0	2.0	100.0%
Humanities	10.0%	18.4	17.0	13.2	9.8	6.7	23.1	1.8	100.0%

relationship between college major and amount of non-vocational reading, with former humanities majors reporting the most reading and science and mathematics majors the least.

Almost half the alumni read five or more periodicals related to their work during the twelve-month period preceding the survey (Table 9-6). Those with higher incomes tend to read more such periodicals, particularly medical workers, lawyers, and creative workers. As was true of books, younger alumni do slightly more professional reading of periodicals.

TABLE 9-6

Reading of Periodicals Related to Work by Year of Graduation, Current Income, and Occupation

	Number of Periodicals Read During Year								
	None	1-2	3-4	5-7	8-10	11-15	Over 15	No Answer	Total
All Graduates	4.9%	19.0	28.8	17.2	8.5	4.1	16.6	0.7	100.0%
Year of Graduation									
1948	3.5%	17.3	29.4	20.4	9.2	3.8	15.4	1.0	100.0%
1953	4.3%	18.5	29.0	17.1	9.1	4.3	16.8	0.9	100.0%
1958	7.0%	21.1	27.9	14.3	7.1	4.2	17.4	1.0	100.0%
Income									
Under $6000	6.0%	23.9	28.9	16.9	7.2	3.8	12.4	0.9	100.0%
6000-9999	6.4%	22.3	28.3	15.6	7.9	3.8	14.8	0.9	100.0%
10,000-14,999	2.5%	17.1	29.4	18.0	9.5	5.0	17.8	0.7	100.0%
15,000-20,999	1.6%	10.7	29.0	21.3	9.4	5.4	21.9	0.7	100.0%
$21,000 and over	1.7%	13.5	28.5	21.6	9.4	3.5	21.1	0.7	100.0%
Occupation									
Lawyer	1.8%	16.9	29.0	17.3	8.5	4.3	21.7	0.5	100.0%
Clergyman	0.7%	10.2	36.3	25.7	10.2	5.5	9.7	1.7	100.0%
Elem-Second. Teach.	4.5%	24.1	32.4	17.5	6.5	3.1	11.0	0.9	100.0%
College Teacher	2.6%	14.2	28.4	23.8	11.6	3.3	15.8	0.3	100.0%
Salesman	5.5%	21.5	30.9	13.9	7.8	4.2	15.5	0.7	100.0%
Social Serv. Worker	3.4%	19.1	31.9	14.4	9.8	4.6	15.9	0.9	100.0%
Medical Worker	0.4%	11.6	31.1	20.2	8.1	4.3	23.9	0.4	100.0%
Scientist-Math.	4.2%	16.6	26.4	18.3	9.1	4.8	19.4	1.2	100.0%
Fiscal-Office-Mgmt.	7.6%	22.8	27.7	15.2	8.3	3.9	13.5	1.0	100.0%
Creative Worker	8.9%	17.9	22.6	13.5	11.2	4.2	20.8	0.9	100.0%
Other	6.9%	21.7	25.2	14.7	8.2	4.8	17.6	0.9	100.0%

Fewer alumni read general periodicals (Table 9-7). Non-professional

TABLE 9-7

Reading of General Periodicals by Year of Graduation, Academic Record, Type of Major, and Amount of Graduate Training

	Number of Periodicals Read During Year								
	None	1-2	3-4	5-7	8-10	11-15	Over 15	No Answer	Total
All Graduates	5.4%	25.3	33.6	17.5	6.1	2.4	8.2	1.5	100.0%
Year of Graduation									
1948	3.9%	23.7	35.2	19.0	6.4	2.3	7.7	1.8	100.0%
1953	5.7%	24.8	34.2	17.1	6.1	2.4	8.2	1.5	100.0%
1958	6.6%	27.3	31.4	16.4	5.9	2.5	8.7	1.2	100.0%
Academic Record									
High	5.5%	28.8	33.5	17.3	5.3	2.3	6.1	1.3	100.0%
Average	5.2%	26.0	35.1	16.8	5.9	2.3	7.1	1.6	100.0%
Low	5.4%	24.4	30.8	18.0	6.5	2.7	10.7	1.5	100.0%
Type of Major									
Science-Math	6.8%	28.1	33.1	16.7	5.1	2.2	6.6	1.4	100.0%
Social Science	5.0%	24.3	33.7	17.7	6.4	2.4	9.0	1.5	100.0%
Humanities	4.2%	23.1	34.0	18.4	7.3	2.5	9.0	1.5	100.0%
Amount of Graduate Training									
None	5.0%	23.6	32.9	17.9	6.5	2.7	9.5	1.9	100.0%
Some, but no advanced degree	5.5%	25.3	32.4	17.9	6.6	2.0	8.9	1.4	100.0%
Master's	5.5%	26.5	33.6	17.5	5.9	2.6	7.2	1.2	100.0%
Prof.	6.4%	26.8	34.5	15.6	5.6	2.2	7.6	1.3	100.0%
Doctor's	4.0%	24.5	37.9	20.4	5.2	2.0	5.3	0.7	100.0%

magazines are more heavily read by graduates with lower academic records and by those who hold only the bachelor's degree. Alumni who majored in science and mathematics read fewer general publications than do graduates from other major fields.

Cultural Activities

The role of liberal education in developing cultural interests is mentioned frequently. Sanford, writing in The American College, comments:

> There is much evidence that in the United States today the kind of culture that is acquired in a liberal arts college is highly important to success in the more prestigeful professions, not so much because the culture prepares for the work to be done as much as because it makes possible the associations and styles of life that go with these professions.(1)

Seldom, however, has adequate documentation illustrated the extent to which graduates participate in cultural activities. Our survey examined the extent to which liberal arts alumni attend the theatre, musical events, or public lectures, or visit museums (Table 9-8). Roughly two out of three graduates attended the theatre or a public lecture or visited an art museum in the last year. More than a third attended two or more operas or symphonic concerts. This data may understate actual inclinations of alumni, who encounter a paucity of opportunities in some areas of the country. (Table 9-8 is on page 149.)

Attendance at theatrical productions, musical events, and art museums tends to rise with quality of college attended. Attendance at public lectures shows little variation by quality of college attended. Attendance at the theatre rises with higher incomes, while attendance at public lectures decreases--a possible commentary on the relative levels of their admission fees.

Public Speaking and Writing

Two-thirds of the graduates gave one or more public speeches in the last year (Table 9-9). Public speaking was more common among the older alumni than among the more recent graduates. At least 60 percent of those in every occupation gave at least one talk. Not surprisingly, clergymen and college teachers led the list. (Table 9-9 is on page 150.)

Summary

Liberal arts graduates report a fairly active intellectual and cultural life. Eight percent still are full-time students, and another eight plan to return to student status in the next three years. As reported earlier (Chapter 3), 21 percent of the alumni expect to receive an additional degree in the next few years, obviously many as a result of part-time study.

Four out of every ten graduates participate in intellectual or cultural discussion groups, ranging from 53 percent of the humanities graduates to 34 percent of the science and mathematics graduates, and occupationally from 77 percent of the clergymen to 26 percent of the salesmen.

Alumni read fairly extensively, with the heaviest concentration on work-related books, followed by fiction, and then non-fiction. Half the alumni reported reading five or more books related to their work during the

TABLE 9-8

Cultural Activities of Alumni by Year of Graduation, Quality of College, and Current Income

"During the past 12 months have you . . . .

	Attended two or more theatrical productions"				Attended one or more public lectures"				Attended two or more opera or symphonic concerts"				Visited an art museum"			
	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total
All Graduates	65.5%	33.4	0.4	100.0%	68.2%	31.2	0.6	100.0%	35.7%	63.5	0.8	100.0%	60.2%	38.9	0.9	100.0%
Year of Graduation																
1948	67.6%	31.3	1.1	100.0%	71.4%	27.8	0.8	100.0%	35.7%	63.2	1.0	100.0%	62.4%	36.7	0.9	100.0%
1953	64.6%	34.6	0.8	100.0%	66.6%	32.7	0.7	100.0%	33.5%	65.6	0.9	100.0%	58.2%	40.9	0.9	100.0%
1958	65.4%	33.9	0.7	100.0%	66.5%	32.8	0.7	100.0%	37.7%	61.7	0.6	100.0%	60.0%	39.2	0.7	100.0%
Quality of College																
High	76.7%	22.7	0.6	100.0%	69.7%	29.6	0.7	100.0%	44.3%	55.0	0.7	100.0%	68.4%	30.9	0.7	100.0%
Medium	66.6%	32.6	0.8	100.0%	67.4%	32.0	0.6	100.0%	35.9%	63.3	0.8	100.0%	60.2%	39.0	0.8	100.0%
Low	58.0%	41.0	1.0	100.0%	68.2%	31.0	0.8	100.0%	29.9%	69.2	0.9	100.0%	55.0%	44.0	1.0	100.0%
Income																
Under $6,000	63.3%	36.3	0.4	100.0%	74.4%	25.3	0.3	100.0%	41.6%	57.9	0.5	100.0%	61.4%	38.0	0.6	100.0%
6000-9999	61.1%	38.3	0.6	100.0%	67.4%	32.0	0.6	100.0%	32.8%	66.6	0.6	100.0%	58.2%	41.0	0.8	100.0%
10,000-14,999	68.9%	30.4	0.7	100.0%	66.2%	33.2	0.6	100.0%	35.2%	64.1	0.7	100.0%	60.9%	38.4	0.7	100.0%
15,000-20,999	73.4%	25.8	0.8	100.0%	68.2%	31.1	0.7	100.0%	37.3%	61.9	0.8	100.0%	62.8%	36.5	0.7	100.0%
21,000 and over	83.0%	16.4	0.6	100.0%	66.4%	32.7	0.9	100.0%	35.5%	63.3	1.2	100.0%	63.0%	36.4	0.6	100.0%

TABLE 9-9

Speeches and Publications by Alumni by Year of Graduation and Current Occupation

"During the past 12 months have you . . .

	Given one or more speeches"				Published an article"				Published a book"			
	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total
All Graduates	67.1%	32.2	0.7	100.0%	22.1%	76.9	1.0	100.0%	1.8%	96.9	1.3	100.0%
Year of Graduation												
1948	73.7%	25.6	0.7	100.0%	26.1%	72.8	1.1	100.0%	2.8%	95.5	1.7	100.0%
1953	68.7%	30.6	0.7	100.0%	22.8%	76.4	0.8	100.0%	1.9%	96.9	1.2	100.0%
1958	59.1%	40.3	0.6	100.0%	17.8%	81.4	0.8	100.0%	0.9%	98.1	1.0	100.0%
Occupation												
Lawyer	70.0%	29.5	0.5	100.0%	15.7%	83.8	0.5	100.0%	1.2%	97.8	1.0	100.0%
Clergyman	99.0%	1.0	-	100.0%	40.3%	58.9	0.8	100.0%	1.7%	97.4	0.9	100.0%
El-Sec. T.	69.3%	29.8	0.9	100.0%	15.7%	82.9	1.4	100.0%	2.0%	95.8	2.2	100.0%
College T.	82.3%	17.5	0.2	100.0%	46.1%	53.4	0.5	100.0%	8.2%	90.4	1.4	100.0%
Salesman	61.5%	37.9	0.6	100.0%	7.2%	91.5	1.3	100.0%	0.2%	98.5	1.3	100.0%
Social Ser.	78.1%	21.4	0.5	100.0%	33.9%	65.4	0.7	100.0%	4.3%	94.3	1.4	100.0%
Medical Worker	72.7%	26.8	0.5	100.0%	23.6%	75.7	0.7	100.0%	0.8%	98.6	0.6	100.0%
Sci-Math.	59.5%	40.3	0.2	100.0%	35.3%	64.3	0.4	100.0%	1.9%	97.2	0.9	100.0%
Fis-Off-Mgt.	60.5%	38.9	0.6	100.0%	11.5%	87.6	0.9	100.0%	0.8%	98.1	1.1	100.0%
Creativ[illegible]	59.7%	40.1	0.2	100.0%	40.8%	59.2	--	100.0%	4.0%	95.1	0.9	100.0%
Other	65.2%	34.4	0.4	100.0%	17.1%	82.2	0.7	100.0%	0.8%	98.1	1.2	100.0%

past year, and nearly a quarter said they read more than 15 such books. Over 20 percent of all medical workers, lawyers, and creative workers read regularly more than 15 periodicals in their field. Graduates who majored in the humanities and those with high academic records are the heaviest readers of general non-fiction and fiction.

During the past year, 66 percent of the graduates attended two or more theatrical productions; 68 percent, one or more public lectures; 36 percent, two or more operas or symphonic concerts; 60 percent, one or more art museums.

Two-thirds of the graduates gave one or more public speeches during the year, 22 percent published an article (including over 40 percent of clergymen, college teachers, and creative workers), and two percent published a book (including eight percent of college professors).

Chapter 10: Civic and Social Contributions of Liberal Arts Alumni

Too many assume that the goal of the college graduate of today is to retire, upon commencement, to a split-level suburban home with space for two cars, swimming pool privileges, and the opportunity to pass from bland youth to mediocre old age. The concerns of this mythical graduate would be limited to his financial, paternal, and social needs.

In contrast, the challenge of today is highlighted by Odegard:

> The type of specialization and analysis that has been pulling man and his world apart have at the same time made them everywhere more interdependent. That each man is his brother's keeper is no longer a question but a condition. . . . This lays a special obligation on the social sciences because they are by definition concerned with man and society. So-called behavioral science . . . has no mandate to be indifferent to human goals or values.(1)

Community Activities

During the past year, a third of the alumni worked on community fund-raising drives, a third attended two or more meetings of the PTA (it should be recalled that all our respondents are men), and a quarter led or helped lead a scout troop or youth group (Table 10-1). Participation in all these community services rises sharply among older alumni, probably as a result of deeper community roots and the presence of school-age children in their families. (Table 10-1 is on page 153.)

Graduates who majored in science and mathematics and those who had the highest academic records are the least likely to participate in these community activities, although differences are not great. Involvement in fund-raising and PTA participation increases with rising income, while leadership of youth groups is highest among low-income groups, because of the fact that relatively low-paid clergymen are by far the most active youth group leaders.

Participation by occupation varies sharply depending upon the type of community activity. The three leading occupational groups taking part in the activity most oriented to the business world--fund-raising--are lawyers, fiscal, office and management workers, and salesmen. The leaders by far in youth group and PTA participation are clergymen and elementary and secondary school teachers. The occupational groups least active in community services are medical workers, college teachers, and scientists and mathematicians.

How well do the graduates measure on this scale? Most graduates (82 percent) themselves agree that liberal education should develop a sense of responsibility to participate in community and public affairs (Table 10-2). The strongest commitment to this purpose is reported by former social science majors and the least by those who studied science and mathematics. While not shown, older alumni and poorer students academically are more likely to

TABLE 10-1

Community Activities of Alumni by Year of Graduation, Type of Major, Academic Record, Current Income, and Occupation

"During the past 12 months have you . . .

	Worked on fund-raising drives for United Fund, or other such charitable organization?"				Led, or assisted in the leadership of a scout troop or youth group?"				Attended two or more meetings of the PTA?"			
	Yes	No	No Answer	Total	Yes	No	No Answer	Total	Yes	No	No Answer	Total
All Graduates	35.0%	63.9	1.1	100.0%	24.9%	74.1	1.0	100.0%	34.1%	65.0	0.9	100.0%
Year of Graduation												
1948	43.1%	55.5	1.4	100.0%	32.8%	66.1	1.1	100.0%	52.6%	46.3	1.1	100.0%
1953	35.6%	63.2	1.2	100.0%	23.8%	75.1	1.1	100.0%	33.5%	65.5	1.0	100.0%
1958	26.7%	72.5	0.8	100.0%	18.3%	80.7	1.0	100.0%	16.8%	82.2	1.0	100.0%
Type of Major												
Social Sciences	41.1%	57.7	1.2	100.0%	26.2%	72.5	1.3	100.0%	35.6%	63.3	1.1	100.0%
Humanities	32.5%	66.3	1.2	100.0%	27.3%	71.8	0.9	100.0%	33.2%	65.7	1.0	100.0%
Science & Math	27.8%	71.4	0.8	100.0%	21.6%	77.5	0.9	100.0%	32.2%	67.0	0.8	100.0%
Academic Record												
High	28.4%	69.7	1.4	100.0%	19.9%	79.3	0.8	100.0%	27.3%	71.6	1.1	100.0%
Average	33.4%	65.6	1.0	100.0%	24.3%	74.7	1.0	100.0%	33.1%	65.9	1.0	100.0%
Low	38.8%	60.1	1.1	100.0%	28.8%	69.9	1.3	100.0%	36.6%	62.5	0.9	100.0%

- Cont'd -

TABLE 10-1 (Cont'd)

"During the past 12 months have you . . .

	Worked on fund-raising drives for United Fund, or other such charitable organization?"				Led, or assisted in the leadership of a scout troop or youth group?"				Attended two or more meetings of the PTA?"			
	Yes	No	No Answer	Total	Yes	No	No Answer	Total	Yes	No	No Answer	Total
Current Income												
Under $6000	21.5%	77.2	1.3	100.0%	29.1%	69.9	1.0	100.0%	25.4%	73.7	0.9	100.0%
6000-9999	32.2%	67.0	0.8	100.0%	24.2%	74.8	1.0	100.0%	32.2%	67.1	0.7	100.0%
10,000-14,999	40.6%	58.5	0.9	100.0%	24.1%	75.0	0.9	100.0%	38.0%	61.0	1.0	100.0%
15,000-20,999	47.8%	51.2	1.0	100.0%	24.3%	74.9	0.8	100.0%	42.6%	56.9	0.5	100.0%
21,000 and over	51.0%	47.9	1.1	100.0%	23.7%	75.4	0.9	100.0%	46.1%	52.7	1.2	100.0%
Occupation												
Lawyer	53.0%	46.4	0.6	100.0%	20.3%	79.0	0.7	100.0%	24.6%	74.7	0.7	100.0%
Clergyman	43.9%	53.2	2.9	100.0%	84.8%	14.9	0.3	100.0%	52.5%	46.6	0.9	100.0%
Elem-Second. Teach.	30.5%	68.2	1.3	100.0%	35.1%	63.2	1.7	100.0%	67.8%	31.1	1.1	100.0%
College Teacher	24.0%	75.8	0.2	100.0%	17.5%	82.1	0.4	100.0%	31.5%	67.8	0.7	100.0%
Salesman	40.0%	58.9	1.1	100.0%	22.2%	76.4	1.4	100.0%	33.6%	65.2	1.2	100.0%
Social Serv. Worker	28.3%	70.2	1.5	100.0%	22.3%	76.3	1.4	100.0%	29.8%	69.5	0.7	100.0%
Medical Worker	28.0%	71.2	0.8	100.0%	15.9%	83.2	0.9	100.0%	24.2%	74.8	1.0	100.0%
Scientist-Math.	22.3%	77.2	0.5	100.0%	19.2%	80.4	0.4	100.0%	30.1%	69.7	0.2	100.0%
Fiscal-Office-Mgmt.	48.0%	51.1	0.9	100.0%	23.7%	75.3	1.0	100.0%	30.8%	68.0	1.2	100.0%
Creative Worker	33.6%	66.0	0.4	100.0%	19.8%	79.7	0.5	100.0%	22.8%	76.5	0.7	100.0%
Other	40.0%	58.9	1.1	100.0%	22.3%	76.8	0.9	100.0%	28.4%	70.9	0.7	100.0%

TABLE 10-2

Role of Liberal Education in Developing Civic Responsibility by Type of Major

Evaluation of statement: "Liberal arts education should . . . develop a sense of responsibility to participate in community and public affairs."

	Importance in Education						"Did your education provide this?"			
	Very Important	Fairly Important	Fairly Unimportant	Not at all Important	No Answer	Total	Yes	No	No Answer	Total
All Graduates	35.8%	46.3	14.2	3.3	0.4	100.0%	52.5%	41.9	5.6	100.0%
Type of Major										
Sci-Math	27.8%	51.0	16.7	3.9	0.6	100.0%	43.0%	51.4	5.6	100.0%
Soc. Sci.	41.3%	43.4	12.1	2.8	0.4	100.0%	59.4%	35.1	5.5	100.0%
Humanities	36.2%	45.1	14.9	3.5	0.3	100.0%	51.9%	42.1	6.0	100.0%

feel that training for civic responsibility is important.

When asked whether their own education had developed this sense of responsibility, only 53 percent said it had (contrasted to 82 percent who felt that it should). Majors in social sciences are the most likely to rate their own education highly in this respect, while those in science and mathematics are the least.

Political Activities and Preferences

Speaking to mid-year graduates of the University of Illinois in 1957, John F. Kennedy said:

> Your campus is visited by prospective employers, ranging from corporation vice-presidents to professional football coaches. . . . But in the midst of all these pleas, plans and pressures, few, I dare say, if any will be urging upon you a career in the field of politics. Some will point out the advantages of civil service positions. Others will talk in noble terms of public service and statesmanship. But few will urge you to become a politician.

How did the graduates, some of whom were actually included in the group to which Senator Kennedy spoke, respond to his concern for more active involvement in political affairs?

First, it is clear that no one political label characterizes the liberal arts graduates: their political beliefs span most of the political spectrum. Almost as many graduates now label themselves Conservative Republicans (17 percent) as Liberal Democrats (20 percent) (Table 10-3). Any election limited to those included in our sample would be close indeed. Eliminating the 12 percent who described themselves as "middle-of-the-road" or who did not respond, we find 43 percent of the alumni aligned with the Democrats and 45 percent with the Republicans.

TABLE 10-3

Political Preferences of Alumni When in College and Now by Year of Graduation

"Which of the following best represents your political leanings (a) when you were a college senior and (b) at the present time?"

			Year of Graduation					
	All Graduates		1948		1953		1958	
	College	Now	College	Now	College	Now	College	Now
Liberal Democrat	24.1%	20.3%	26.0%	21.2%	23.7%	19.0%	22.9%	20.9%
Conservative Democrat	9.7	9.1	10.5	9.5	10.0	9.1	8.6	8.6
Independent and liberal	13.9	13.5	15.0	12.2	13.1	13.5	13.7	14.7
Independent and middle-of-the-road	12.5	11.5	11.3	11.3	12.1	11.2	14.0	11.9
Independent and conservative	6.7	9.5	5.6	9.1	6.8	9.3	7.7	10.1
Liberal Republican	17.5	17.6	16.8	18.5	18.1	18.2	17.6	16.1
Conservative Republican	14.7	17.4	14.1	17.1	15.4	18.7	14.5	16.4
No Answer	0.9	1.1	0.7	1.1	0.8	1.0	1.0	1.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

A definite shift in attitudes since graduation is noted, with alumni now more conservative. Even before graduation more recent classes were more conservative: 52 percent of the 1948 alumni said they were Democrats or independent and liberal while in college, in contrast to only 45 percent of the 1958 alumni.

There is a correlation between political leanings and college background. The best students in college now are the most likely to have liberal political beliefs (Table 10-4). Graduates in science and mathematics tend to have more conservative views, while humanities majors are more likely to hold liberal views. In contrast to those who stopped with their bachelor's, alumni with doctorates are much more liberal. (Table 10-4 is on page 158.)

Distinctive patterns of current political thought also appear when analyzed by career patterns of alumni (Table 10-5). Graduates earning the least money tend to be somewhat more liberal, while the most conservative are in the higher income brackets (the smallest percentage of Liberal Democrats and the largest percentage of Conservative Republicans appear, however, not in the highest income bracket but rather in the next-highest). By occupation, college teachers, social service workers, elementary and secondary school teachers, and creative workers are the most likely to be Liberal Democrats, while salesmen, medical workers, and fiscal, office, and management workers are the most likely to be Conservative Republicans. Lawyers are widely diverse in their political inclinations, rating both fifth-highest in proportions of Liberal Democrats and fourth-highest in proportions of Conservative Republicans. (Table 10-5 is on page 159.)

The extent of political involvement seems equally significant. Reports on political activity show that during the past year almost half of the graduates wrote to or talked with a public official about a current program or proposed bill, but less than 20 percent belonged to a political club or political action group (Table 10-6). In the last 12 months, one out of every 20 graduates campaigned for or held a public office. In each of these political activities, participation is markedly higher among the older graduates. Participation also rises with rising income in each activity. While not shown, lawyers are clearly the most politically active occupational group, with 17 percent having either run for or held a public office during the past year. (Table 10-6 is on page 160.)

Organizational Memberships

The survey inquired about the graduates' membership in professional associations, service clubs, veterans organizations, and labor unions. Results show that 71 percent belong to professional associations, while much smaller numbers belong to service clubs (20 percent), and veterans groups (9 percent) (Table 10-7). Five percent belong to labor unions, but because the percentages were so low, these data were not included in the table. Older alumni are consistently more likely to belong to each such organization. (Table 10-7 is on page 161.)

Among occupational groups, lawyers were the most likely to belong to professional associations, service clubs, and veterans organizations. Professional associations are strongest (with over 90 percent of the alumni involved in them) among lawyers, college teachers, medical workers, and elementary and secondary school teachers. By contrast, less than half of the salesmen and the fiscal, office, and management workers belong to professional associations. Service club membership characterizes salesmen, fical, office and management workers, lawyers and clergymen and is least typical among scientists and mathematicians, college teachers, and creative workers. Although 74 percent of

TABLE 10-4

Current Political Preferences of Alumni by Academic Record, Type of Major, and Amount of Graduate Training

	Liberal Democrat	Cons. Democrat	Indep. Liberal	Indep. & middle-of the-road	Indep.& Cons.	Liberal Repub.	Cons. Repub.	No Answer	Total
All Graduates	20.3%	9.1	13.5	11.5	9.5	17.6	17.4	1.1	100.0%
Academic Record									
High	28.2%	7.4	16.5	11.1	8.4	14.6	13.2	0.6	100.0%
Average	21.0%	9.1	14.2	11.8	9.3	17.4	16.2	1.0	100.0%
Low	15.3%	9.9	10.9	10.9	10.3	19.1	21.9	1.7	100.0%
Type of Major									
Science-Math	14.4%	9.3	12.8	13.2	11.7	16.7	20.8	1.1	100.0%
Social Sci.	22.0%	9.0	12.3	10.7	8.5	19.0	17.4	1.1	100.0%
Humanities	26.5%	8.9	17.6	10.5	8.2	15.4	11.3	1.6	100.0%
Amount of Graduate Training									
None	14.8%	9.2	9.8	12.3	10.3	19.9	22.1	1.6	100.0%
Some, but no advanced degree	20.3%	9.6	15.5	11.0	10.2	16.7	15.5	1.2	100.0%
Master's	26.2%	8.5	16.6	11.2	8.4	15.6	12.7	0.8	100.0%
Professional	18.8%	9.7	10.5	11.2	10.1	18.6	20.2	0.9	100.0%
Doctor's	32.9%	6.0	25.4	11.1	6.1	11.3	6.2	1.0	100.0%

TABLE 10-5

Current Political Preferences by Current Income and Occupation

	Liberal Democrat	Cons. Democrat	Indep. Liberal	Indep.& middle-of the-road	Indep.& Cons.	Liberal Repub.	Cons. Repub.	No Answer	Total
All Grads	20.3%	9.1	13.5	11.5	9.5	17.6	17.4	1.1	100.0%
Income									
Under $6000	21.1%	8.2	14.4	14.1	10.7	14.4	15.6	1.5	100.0%
6000-9999	22.3%	9.6	13.9	11.8	9.6	16.3	15.4	1.1	100.0%
10,000-14,999	18.4%	8.4	13.1	11.3	9.1	20.3	18.5	0.9	100.0%
15,000-20,999	14.4%	7.8	11.8	11.1	10.1	20.5	24.3	0.0	100.0%
21,000 and over	17.2%	10.3	8.3	8.6	10.1	24.6	20.2	0.7	100.0%
Occupation									
Lawyer	24.5%	12.7	9.3	7.2	6.9	18.5	19.8	1.1	100.0%
Clergyman	21.1%	8.8	14.7	14.7	8.6	19.2	12.4	0.5	100.0%
El-Sec. T.	28.3%	11.5	15.8	11.0	8.1	15.4	9.0	0.9	100.0%
College T.	40.3%	4.7	18.0	13.1	5.3	12.3	5.6	0.7	100.0%
Salesman	12.6%	7.7	9.2	10.1	10.6	21.5	27.0	1.3	100.0%
Social Ser.	38.7%	9.3	24.2	7.1	4.3	8.7	7.1	0.6	100.0%
Medical	11.1%	8.1	9.0	13.2	12.5	18.3	26.7	1.1	100.0%
Sci-Math.	14.2%	9.4	14.8	12.7	11.6	17.6	18.8	0.9	100.0%
Fis-Off-Mgt.	12.9%	8.8	9.1	11.9	10.8	22.5	22.7	1.3	100.0%
Creative	24.7%	5.6	23.3	11.2	7.7	15.6	10.5	1.4	100.0%
Other	21.1%	9.9	14.4	12.3	10.3	15.6	15.0	1.4	100.0%

TABLE 10-6

Current Political Activities by Year of Graduation and Current Income

"During the past 12 months have you . . .

	Run for, or held, a public office?"				Belonged to a political club or political action group?"				Wrote or talked with a public official about a current program or proposed bill?"			
	Yes	No	No Answer	Total	Yes	No	No Answer	Total	Yes	No	No Answer	Total
All Graduates	5.1%	93.8	1.1	100.0%	17.6%	81.4	1.0	100.0%	44.7%	54.4	0.9	100.0%
Year of Graduation												
1948	7.2%	91.3	1.5	100.0%	20.6%	78.1	1.3	100.0%	55.4%	43.7	0.9	100.0%
1953	5.5%	93.5	1.0	100.0%	18.5%	80.7	0.8	100.0%	44.9%	54.2	0.9	100.0%
1958	2.6%	96.5	0.9	100.0%	13.9%	85.4	0.7	100.0%	34.4%	64.9	0.7	100.0%
Income												
Under $6000	3.2%	95.8	1.0	100.0%	11.6%	87.5	0.9	100.0%	37.1%	62.3	0.6	100.0%
6000-9999	4.1%	95.0	0.9	100.0%	16.1%	83.2	0.7	100.0%	42.6%	56.8	0.6	100.0%
10,000-14,999	5.2%	93.7	1.1	100.0%	17.9%	81.1	1.0	100.0%	46.1%	53.2	0.7	100.0%
15,000-20,999	9.4%	89.5	1.1	100.0%	24.6%	74.7	0.7	100.0%	55.2%	44.3	0.5	100.0%
21,000 and over	9.5%	89.0	1.5	100.0%	26.1%	72.7	1.2	100.0%	57.0%	41.7	1.3	100.0%

TABLE 10-7

Membership in Organizations by Year of Graduation and Current Occupation

"During the past 12 months have you . . .

	Belonged to a professional association?"				Belonged to a service club (Rotary, Kiwanis, etc.)?"				Belonged to a veterans organization?"			
	Yes	No	No Answer	Total	Yes	No	No Answer	Total	Yes	No	No Answer	Total
All Graduates	70.7%	28.6	0.7	100.0%	19.8%	79.2	1.0	100.0%	9.1%	89.8	1.1	100.0%
Year of Graduation												
1948	75.4%	23.9	0.7	100.0%	23.4%	75.5	1.1	100.0%	14.9%	83.9	1.2	100.0%
1953	72.9%	26.5	0.6	100.0%	20.8%	78.3	0.9	100.0%	7.5%	91.4	1.1	100.0%
1958	64.1%	35.2	0.7	100.0%	15.5%	83.8	0.7	100.0%	5.1%	93.9	1.0	100.0%
Current Occupation												
Lawyer	94.7%	5.1	0.2	100.0%	35.3%	64.1	0.6	100.0%	14.2%	85.0	0.8	100.0%
Clergyman	83.1%	16.6	0.3	100.0%	30.6%	68.7	0.7	100.0%	4.8%	94.1	1.1	100.0%
El-Sec. T.	90.3%	8.5	1.2	100.0%	18.2%	80.4	1.4	100.0%	12.1	86.4	1.5	100.0%
College T.	93.7%	6.1	0.2	100.0%	10.7%	88.8	0.5	100.0%	3.3%	95.8	0.9	100.0%
Salesman	46.6%	52.5	0.9	100.0%	25.3%	73.9	0.8	100.0%	11.4%	87.5	1.1	100.0%
Social Ser.	82.5%	17.1	0.4	100.0%	13.7%	85.4	0.9	100.0%	5.5%	94.1	0.4	100.0%
Medical	92.5%	6.9	0.6	100.0%	21.1%	78.3	0.6	100.0%	6.1%	93.2	0.7	100.0%
Sci-Math.	76.3%	23.3	0.4	100.0%	9.6%	89.8	0.6	100.0%	6.1%	93.2	0.7	100.0%
Fis-Off-Mgt.	48.7%	50.8	0.5	100.0%	27.8%	71.3	0.9	100.0%	10.9%	87.9	1.2	100.0%
Creative	50.1%	49.7	0.2	100.0%	11.7%	87.9	0.4	100.0%	7.5%	92.1	0.4	100.0%
Other	56.9%	42.5	0.6	100.0%	16.2%	82.9	0.9	100.0%	12.0%	87.4	0.6	100.0%

the graduates were eligible, through prior military service, less than 10 percent bothered to join a veteran's group. There was a striking lack of participation by college professors (three percent) and by clergymen (five percent).

Religious Activities and Preferences

Historically, an important goal of the liberal arts college was to train the "perfect Christian gentleman." Typical was Amherst College, founded to "prepare for the gospel ministry young men in indigent circumstances but of hopeful piety and promising talent." Among its first 3,428 graduates, 1,284 were ordained clergymen and missionaries.(2)

While training for the ministry now is conducted in seminaries, the alumni clearly expect a liberal education to concern itself with ethical and moral questions. Almost 90 percent of the graduates say it is "fairly important" or "very important" for a liberal education to "develop moral capacities, ethical standards and values" (Table 10-8). This objective is more important to those graduates who attended Roman Catholic institutions and to the older alumni. Slightly over two-thirds of the graduates feel their own education met this objective, ranging from 89 percent of those from Roman Catholic schools to 58 percent of graduates of public colleges and universities. (Table 10-8 is on page 163.)

Alumni from all types of colleges agree that religion is more important to them now than when they were college seniors (Table 10-9). The percentage who feel religion is "very important" has climbed from 32 percent when they were college seniors to 42 percent today. Alumni of Catholic institutions are far more likely to rate religion important than graduates of public or private schools. While not shown, current attitudes toward religion seem relatively unaffected by academic record and type of college major. (Table 10-9 is on page 164.)

Aside from clergymen, elementary and secondary school teachers consider religion the most important, followed by salesmen and fiscal, office, and management workers (Table 10-10). The least concerned about religion are social service workers and those in creative fields. Alumni who rate religion as "very important" are more likely to come from the lower income brackets. (Table 10-10 is on page 165.)

Actual religious preferences show that 52 percent of the graduates are Protestant, 21 percent are Catholic, 10 percent are Jewish, and 14 percent have no religious preference (Table 10-11). As college seniors, Catholics accounted for 93 percent of the enrollment at Roman Catholic institutions but only 11 percent at private colleges and 14 percent at public schools. Comparisons of religious choices when in college and now show slight declines in Jewish and Roman Catholic preferences and in all Protestant affiliations except for gains in Episcopalians and Presbyterians. The main increase occurred in the categories of other religions and no religious preference. This decline in attachment to formal religious groups is somewhat curious in the light of Table 10-9 which showed a 10 percent increase between college days to now in graduates who rate religion as "very important." (Table 10-11 is on page 166.)

TABLE 10-8

Role of Liberal Education in Developing Moral Values by Year of Graduation, Control of College, and Current Occupation

Evaluation of statement: "Liberal arts education should . . . develop moral capacities, ethical standards and values."

	Importance in Education						"Did your education provide this?"			
	Very Important	Fairly Important	Fairly unimportant	Not at all Important	No Answer	Total	Yes	No	No Answer	Total
All Graduates	56.8%	31.1	8.6	3.0	0.5	100.0%	68.3%	25.9	5.8	100.0%
Year of Graduation										
1948	60.3%	29.8	6.6	2.4	0.9	100.0%	67.8%	25.3	6.9	100.0%
1953	56.5%	31.6	8.6	2.8	0.5	100.0%	68.5%	26.3	5.2	100.0%
1958	53.6%	31.8	10.4	3.8	0.4	100.0%	68.6%	26.1	5.3	100.0%
Control of College										
Catholic	76.8%	20.1	1.6	0.7	0.8	100.0%	89.4%	4.3	6.3	100.0%
Public	51.0%	33.5	10.8	4.1	0.6	100.0%	58.3%	36.0	5.7	100.0%
Private	53.6%	31.7	8.5	2.7	4.5	100.0%	70.8%	23.4	5.8	100.0%
Occupation										
Lawyer	61.2%	28.7	6.9	2.7	0.5	100.0%	69.2%	26.4	4.4	100.0%
Clergyman	66.3%	27.8	5.0	0.5	0.4	100.0%	72.9%	20.9	6.2	100.0%
El-Sec. T.	62.5%	29.1	6.3	1.8	0.3	100.0%	71.6%	21.6	6.8	100.0%
College T.	52.5%	35.0	9.1	2.8	0.6	100.0%	69.5%	23.3	7.2	100.0%
Salesman	61.6%	27.1	8.1	2.9	0.3	100.0%	69.0%	25.3	5.7	100.0%
Social Ser.	49.0%	34.9	11.6	4.3	0.2	100.0%	66.5%	29.6	3.9	100.0%
Medical	52.7%	36.1	8.7	2.2	0.3	100.0%	65.6%	29.2	5.2	100.0%
Sci-Math.	47.9%	35.4	10.9	4.8	1.0	100.0%	62.3%	32.4	6.3	100.0%
Fis-Off-Mgt	57.9%	29.7	8.2	3.3	0.9	100.0%	71.4%	23.1	5.5	100.0%
Creative	59.4%	27.5	9.3	3.5	0.3	100.0%	66.7%	27.0	6.3	100.0%
Other	55.1%	31.6	10.2	2.7	0.4	100.0%	68.3%	26.8	4.9	100.0%

TABLE 10-9

Importance of Religion During College and Now by Control of College

"Which of the following best represents how important religion was to you when you were in college and how important it is now?"

	When a College Senior				Now			
		Type of Control				Type of Control		
Importance	All Grads	Catholic	Public	Pvt.	All Grads	Catholic	Public	Private
Very important	31.8%	77.0%	21.9%	29.1%	42.3%	82.5%	34.2%	39.4%
Of some importance	34.3	18.1	36.5	36.3	32.0	12.2	34.8	34.2
Of little importance	20.3	2.8	24.8	20.9	12.7	2.7	15.0	13.3
Completely unimportant	8.9	0.7	11.3	8.9	8.7	0.9	10.8	9.0
No opinion or no answer	4.7	1.4	5.5	4.8	4.3	1.8	5.2	4.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Although 85 percent of the graduates (see Table 10-11) report a religious preference, only 58 percent attended church services "on a fairly regular basis" during the past year (Table 10-12). A quarter of the graduates served on the governing boards of religious organizations, and 29 percent worked on fund-raising for a church. As also was true of community services and political activities, older alumni play a more active role in all of these church activities. Participation is higher among graduates of lower-quality schools and among alumni of Roman Catholic schools. By occupation, the most active participants in religious activities are lawyers, elementary and secondary school teachers, salesmen, and fiscal, office, and management workers. Consistently the least active are social service workers and those in creative fields. (Table 10-12 is on page 167.)

Alumni Activities

Almost half of the graduates attended an alumni function or visited their undergraduate campus during the past year, and nearly as many contributed financially to their undergraduate college (Table 10-13). Attendance at college functions is highest among most recent graduates (reversing the pattern of higher participation by older graduates in all other activities noted in this chapter). Graduates of small schools and of high-quality schools are

TABLE 10-10

Importance of Religion by Current Occupation and Income

"Which of the following represents how important religion . . . is now?"

	Very Important	Of some importance	Of little importance	Completely unimportant	No Answer or no opinion	Total
All Graduates	42.3%	32.0	12.7	8.7	4.3	100.0%
Occupation						
Lawyer	34.4%	37.6	15.6	9.6	2.8	100.0%
Clergyman	97.9%	1.7	--	--	0.4	100.0%
El-Sec. T.	51.5%	28.2	9.9	5.9	4.5	100.0%
College T.	35.7%	29.1	17.0	14.4	3.9	100.0%
Salesman	42.7%	37.4	9.8	6.2	3.9	100.0%
Social Ser.	29.6%	30.5	18.5	18.0	3.4	100.0%
Medical	36.5%	38.5	15.4	6.6	3.0	100.0%
Sci-Math.	40.5%	30.7	13.6	10.4	4.9	100.0%
Fis-Off-Mgt.	41.3%	34.6	12.8	6.9	4.4	100.0%
Creative	32.6%	31.9	14.2	14.7	6.5	100.0%
Other	39.5%	35.7	12.0	8.2	4.6	100.0%
Income						
Under $6000	50.0%	26.7	11.1	7.9	4.3	100.0%
6000-9999	44.2%	31.4	11.7	8.6	4.1	100.0%
10,000-14,999	39.0%	34.9	13.4	8.5	4.2	100.0%
15,000-20,999	37.6%	35.7	14.4	8.5	3.8	100.0%
21,000 and over	37.7%	36.8	14.3	8.7	2.5	100.0%

more likely to attend college functions. (Table 10-13 is on page 168.)

In view of the importance of outside financial support to higher education, the fact that nearly 50 percent of all graduates contributed financially to their Alma Mater is significant. Fifty-seven percent of both Catholic and private school graduates gave money to their institutions, but support from public school alumni dropped to only 33 percent. Financial support is also substantially lower among graduates of large schools (34 percent) than of small schools (54 percent). The percentage contributing to their colleges rises with the age of the alumni (resuming the pattern cited above), and with the level of income.

Summary

Community activities are important to the liberal arts graduates. Most

TABLE 10-11

Religious Preferences in College and Now by Control of College

"What was your religious preference when you graduated from college, and what is it now?"

	When a College Senior				Now			
		Control of College				Control of College		
Religious Preference	All Grads	Roman Catholic	Public	Private	All Grads	Roman Catholic	Public	Private
Baptist	7.9%	0.3%	7.4%	10.0%	5.8%	0.1%	4.9%	7.7%
Congregational (United Church of Christ)	4.6	0.3	3.8	6.2	4.5	0.2	3.9	5.9
Episcopal	7.0	0.3	7.5	8.1	8.3	0.5	9.3	9.3
Lutheran	6.0	0.8	6.3	6.9	5.8	0.9	5.9	6.7
Methodist	11.7	0.6	14.2	12.4	10.3	0.6	12.3	11.1
Presbyterian	9.3	0.7	10.0	10.6	9.8	0.6	10.2	11.4
Other Protestant	7.9	0.7	7.7	9.6	7.5	0.9	7.4	9.0
Roman Catholic	21.3	92.9	14.0	10.9	21.0	91.1	14.2	10.7
Jewish	10.5	1.1	11.2	11.9	10.0	1.0	10.7	11.4
Other, Non-Prot.	1.2	0.5	1.5	1.1	1.7	0.6	2.1	1.7
None	12.0	1.0	15.8	11.7	14.4	2.7	18.3	14.2
No Answer	0.6	0.5	0.6	0.6	0.9	0.8	0.8	0.9
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(82 percent) feel that liberal education should develop a sense of responsibility to participate in community and public affairs, but only 53 percent say their own education met this objective. A third of all alumni worked on community fund-raising drives, a third attended two or more PTA meetings, and a quarter led of helped lead youth groups during the past year. Lawyers, salesmen, and fiscal, office, and management workers are the leading participants in fund-raising; clergymen and elementary and secondary school teachers, in youth groups and PTA.

A high proportion of all graduates (71 percent) belong to professional associations, including 90 percent of all lawyers, college teachers, medical

TABLE 10-12

Current Participation in Religious Activities by Year of Graduation, Quality and Control of College, and Current Occupation

"During the past 12 months have you . . .

	Attended religious services on a fairly regular basis?"				Served on a church or synagogue board or committee?"				Worked on fund-raising for your church?"			
	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total	Yes	No	No Ans.	Total
All Graduates	57.6%	41.8	0.6	100.0%	25.7%	73.4	0.9	100.0%	29.9%	69.8	1.1	100.0%
Year of Graduation												
1948	63.2%	36.2	0.6	100.0%	33.5%	65.5	1.0	100.0%	39.4%	59.2	1.4	100.0%
1953	58.3%	41.0	0.7	100.0%	27.6%	71.4	1.0	100.0%	30.1%	68.9	1.0	100.0%
1958	51.6%	48.0	0.4	100.0%	16.3%	82.9	0.8	100.0%	18.4%	80.8	0.8	100.0%
Quality of College												
High	44.5%	54.9	0.6	100.0%	18.6%	80.4	1.0	100.0%	22.4%	76.6	1.0	100.0%
Medium	52.6%	46.8	0.6	100.0%	23.3%	75.9	0.8	100.0%	26.0%	73.1	0.9	100.0%
Low	72.7%	26.8	0.5	100.0%	33.4%	65.6	1.0	100.0%	37.8%	61.0	1.2	100.0%
Control of College												
Catholic	90.8%	8.7	0.5	100.0%	21.2%	77.6	1.2	100.0%	36.7%	62.1	1.2	100.0%
Public	50.4%	48.9	0.7	100.0%	23.1%	76.0	0.9	100.0%	25.6%	73.2	1.2	100.0%
Private	55.5%	44.0	0.5	100.0%	28.5%	70.7	0.8	100.0%	30.0%	69.1	0.9	100.0%
Occupation												
Lawyer	51.4%	48.0	0.6	100.0%	28.0%	71.5	0.5	100.0%	32.3%	66.7	1.0	100.0%
Clergyman	99.5%	0.2	0.3	100.0%	94.8%	4.5	0.7	100.0%	93.4%	6.6	--	100.0%
El-Sec. T.	66.1%	33.1	0.8	100.0%	30.9%	67.7	1.4	100.0%	32.2%	66.1	1.7	100.0%
College T.	48.2%	51.3	0.5	100.0%	22.6%	76.9	0.5	100.0%	22.4%	76.7	0.9	100.0%
Salesman	62.0%	37.7	0.3	100.0%	22.2%	77.0	0.8	100.0%	32.7%	66.4	0.9	100.0%
Social Ser.	43.1%	56.9	--	100.0%	18.5%	80.6	0.9	100.0%	18.7%	80.2	1.1	100.0%
Medical	51.7%	47.7	0.6	100.0%	18.6%	80.5	0.9	100.0%	20.5%	78.3	1.2	100.0%
Sci-Math.	57.6%	42.2	0.2	100.0%	22.2%	77.4	0.4	100.0%	24.8%	74.7	0.5	100.0%
Fis-Off-Mgt.	59.5%	40.0	0.5	100.0%	25.6%	73.7	0.7	100.0%	30.9%	68.2	0.9	100.0%
Creative	45.2%	54.6	0.2	100.0%	18.2%	81.1	0.7	100.0%	20.5%	79.0	0.5	100.0%
Other	56.9%	42.7	0.4	100.0%	18.3%	80.8	0.9	100.0%	22.9%	76.0	1.1	100.0%

TABLE 10-13

Contact with Alma Mater by Year of Graduation, Quality, Size, and Control of College, and Current Income

"During the past 12 months have you . . .

	Attended a college alumni function or visited your undergraduate campus?"				Given money to your undergraduate college or university?"			
	Yes	No	No Answer	Total	Yes	No	No Answer	Total
All Graduates	49.8%	49.4	0.8	100.0%	47.9%	51.4	0.7	100.0%
Year of Graduation								
1948	44.1%	55.0	0.9	100.0%	51.3%	48.0	0.7	100.0%
1953	48.7%	50.4	0.9	100.0%	48.2%	51.0	0.8	100.0%
1958	56.4%	43.0	0.6	100.0%	44.4%	55.1	0.5	100.0%
Quality of College								
High	56.2%	43.1	0.7	100.0%	60.4%	39.0	0.6	100.0%
Medium	46.2%	53.1	0.7	100.0%	44.0%	55.3	0.7	100.0%
Low	50.7%	48.4	0.9	100.0%	45.2%	53.9	0.9	100.0%
Size of College								
Small	52.2%	47.2	0.6	100.0%	54.2%	45.4	0.4	100.0%
Medium	50.4%	48.8	0.8	100.0%	51.3%	47.8	0.9	100.0%
Large	45.8%	53.3	0.9	100.0%	34.4%	64.9	0.7	100.0%
Control of College								
Catholic	52.3%	46.9	0.8	100.0%	56.6%	42.4	1.0	100.0%
Public	47.0%	52.1	0.9	100.0%	32.7%	66.5	0.8	100.0%
Private	51.3%	48.0	0.7	100.0%	56.8%	42.7	0.5	100.0%
Income								
Under $6000	55.1%	44.0	0.9	100.0%	40.6%	58.8	0.6	100.0%
6000-9999	50.9%	48.5	0.6	100.0%	43.6%	55.9	0.5	100.0%
10,000-14,999	46.7%	52.6	0.7	100.0%	50.9%	48.5	0.6	100.0%
15,000-20,999	49.9%	49.5	0.6	100.0%	62.1%	37.5	0.4	100.0%
21,000 and over	47.9%	51.1	1.0	100.0%	68.7%	30.6	0.7	100.0%

workers, and elementary and secondary school teachers. Smaller numbers of graduates belong to service clubs (20 percent), with lawyers, salesmen, and fiscal, office, and management workers among the leading participants. Very small numbers (9 percent as contrasted with the 74 percent eligible through prior military service) belong to veterans organizations, and still less (5 percent) to labor unions.

Politically, the graduates are somewhat more conservative than when they graduated from college. They are now almost equally split between the right and the left of the political center. Majors in the humanities tend to be the most liberal; those who majored in science and mathematics tend to be the most conservative. Those with high academic standing in college and those who received doctor's degrees tend to be more liberal. In terms of occupation, college professors and social service workers are the most liberal, while salesmen and fiscal, office, and management workers are the most conservative.

During the past year, almost half the respondents wrote or talked with a public official about pending political matters. Less than 20 percent, however, belonged to a political club or political action group. One out of 20 graduates ran for or held a public office.

A large majority (almost 90 percent) of the graduates feel that liberal education should develop moral capacities, ethical standards and values. Fewer graduates (68 percent) say their college education met this goal, a high of 89 percent among graduates of Catholic colleges contrasting with 58 percent of those from public institutions.

Religion has grown in importance for the graduates--the numbers who rate it as "very important" has climbed from 32 percent at the time they were college seniors to 42 percent today. Those from the lower income brackets are the most likely to rate religion as "very important." Occupationally, the groups who are most likely to rate religion as important are (aside from clergymen) elementary and secondary school teachers, salesmen, and fiscal, office, and management workers. The least concerned about religion are social service workers and those in creative fields.

In terms of current religious preferences, 52 percent of the graduates are Protestants, 21 percent are Roman Catholics, 10 percent are Jewish, and 14 percent have no religious preference. Involvement in religion through regular church attendance is reported by 58 percent of all graduates.

Almost half of the graduates attended an alumni function or visited their undergraduate college during the past year, and again almost half contributed financially to their college. Contribution rates are substantially higher for alumni of Roman Catholic and private institutions than for alumni of public institutions.

With the single exception of visits to their college campus, older alumni are more active in all civic and social areas than younger graduates.

Chapter 11: The Role of Marriage and the Family

Primary attention in this study has been directed to the education and the careers of liberal arts graduates and to their general roles in society. This chapter presents some data on marriage and family status to round out the picture of the graduates presented in previous chapters and to indicate the extent to which wives may agree with or influence the career decisions of liberal arts alumni.

Marital Status

Most (84 percent) of the alumni in our sample are married (Table 11-1). (Four percent report having married for at least the second time.) Two percent are divorced or widowed. Obviously, marriage rates are higher among older alumni: only 7 percent of the 1948 alumni are single, whereas 22 percent of the 1958 graduates are single. Marriage rates tend to be slightly higher among alumni of small or lower-quality institutions, among graduates with poorer academic records in college, and among alumni who were science and mathematics majors. Men from Catholic colleges show a lower marriage rate than do those from private or public institutions. Marriage rates correlate with income--from 69 percent for those earning under $6000 to 95 percent for those earning $21,000 and over. (Table 11-1 is on page 171.)

More than half of the alumni were married either before or within a year after graduation from college (Table 11-2). A third of the 1948 graduates, which included many World War II veterans, were married before obtaining their baccalaureate. Almost twice as many alumni of the low-quality colleges as of the high-quality colleges were married before graduation. The rate of marriage before graduation from Catholic institutions was 19 percent, while at the largely coeducational public institutions it was 36 percent. Early marriages characterize those who stopped at the bachelor's degree, while those who went on for a professional degree tended to postpone marriage the longest. (Table 11-2 is on page 172.)

Even though half of the alumni were married during college or within a year after graduation, a striking number of comments advise against beginning marriage and career at the saem time:

> Too many careers and marriages are ruined or reduced to mediocrity by hasty assumption of family and financial burdens. (Washington University)
>
> Try to maintain economic independence for three to five years after graduation to permit experimentation with career fields. (Fordham University)
>
> Soon after graduation, we began to have children and I had to take almost the first job offered. (Colorado State University)

TABLE 11-1

Current Marital Status of Graduates by Year of Graduation, Quality, Size and Control of College, Academic Record, Type of Major, and Current Income

	Single	Married	Divorced	Widowed	No Answer	Total
All Graduates	13.7%	84.1	1.5	0.2	0.5	100.0%
Year of Graduation						
1948	6.9%	90.8	1.4	0.3	0.6	100.0%
1953	11.8%	86.1	1.5	0.2	0.4	100.0%
1958	22.2%	75.8	1.7	0.1	0.2	100.0%
Quality of College						
High	15.6%	82.3	1.5	0.0	0.6	100.0%
Medium	14.1%	83.6	1.9	0.2	0.2	100.0%
Low	12.1%	86.0	1.1	0.2	0.6	100.0%
Size of College						
Small	11.3%	87.2	1.1	0.1	0.3	100.0%
Medium	14.7%	82.8	1.7	0.2	0.6	100.0%
Large	15.5%	79.0	1.9	0.1	0.5	100.0%
Control of College						
Catholic	20.5%	77.9	0.5	0.3	0.8	100.0%
Public	12.3%	85.2	1.9	0.2	0.4	100.0%
Private	13.3%	84.6	1.5	0.1	0.5	100.0%
Academic Record						
High	15.0%	82.6	1.4	0.2	0.8	100.0%
Average	14.1%	83.7	1.5	0.2	0.5	100.0%
Low	12.5%	87.5	1.6	0.1	0.3	100.0%
Type of Major						
Science-Math.	11.4%	86.9	1.1	0.2	0.4	100.0%
Social Sciences	13.3%	84.6	1.5	0.1	0.5	100.0%
Humanities	18.8%	78.3	2.2	0.1	0.6	100.0%
Current Income						
Under $6000	29.3%	68.5	1.6	--	0.6	100.0%
6000-9999	14.8%	83.3	1.4	0.2	0.3	100.0%
10,000-14,999	6.7%	91.6	1.3	0.1	0.3	100.0%
15,000-20,999	4.1%	94.1	1.1	0.3	0.4	100.0%
21,000 and over	2.9%	94.7	1.2	0.1	1.1	100.0%

TABLE 11-2

Timing of Marriage by Year of Graduation, Quality, Size, and Control of College, Academic Record and Amount of Graduate Training
(Includes only alumni who are or have been married)

Q44. "When were you first married?"

	Before grad. from college	Within one year after graduation	2-3 years after graduation	4-5 years after graduation	6 or more years after graduation	No Answer	Total
All Graduates	29.7%	27.1	19.0	13.0	10.5	0.7	100.0%
Year of Graduation							
1948	33.5%	23.2	17.1	11.0	14.5	0.7	100.0%
1953	23.7%	26.8	19.8	13.4	15.6	0.7	100.0%
1958	31.9%	32.0	20.2	14.8	0.5	0.6	100.0%
Quality of College							
High	19.9%	28.1	22.0	15.3	13.9	0.8	100.0%
Medium	30.3%	26.8	19.3	12.7	10.4	0.5	100.0%
Low	34.9%	27.0	16.5	12.0	8.9	0.7	100.0%
Size of College							
Small	31.0%	29.3	18.6	11.4	9.4	0.3	100.0%
Medium	27.9%	26.5	20.0	13.4	11.4	0.8	100.0%
Large	30.4%	25.0	17.9	14.7	11.1	0.9	100.0%
Control of College							
Catholic	19.3%	26.4	23.3	16.9	13.1	1.0	100.0%
Public	36.0%	25.6	16.9	11.9	8.9	0.7	100.0%
Private	27.1%	28.3	19.6	13.0	11.3	0.7	100.0%

TABLE 11-2 (continued)

	Before grad. from college	Within one year after graduation	2-3 years after graduation	4-5 years after graduation	6 or more years after graduation	No Answer	Total
Academic Record							
High	26.1%	25.2	22.2	13.3	12.0	1.2	100.0%
Average	29.9%	26.5	18.8	13.2	10.9	0.7	100.0%
Low	29.6%	30.4	19.3	12.0	8.4	0.3	100.0%
Amount of Graduate Training							
None	34.0%	29.3	16.9	11.5	7.5	0.8	100.0%
Some, but no advanced degree	30.0%	27.5	18.6	13.4	9.9	0.6	100.0%
Master's	31.9%	27.9	17.7	11.2	10.5	0.8	100.0%
Professional	21.1%	23.2	23.6	17.0	14.6	0.5	100.0%
Doctorate	26.3%	25.9	20.9	12.5	13.8	0.6	100.0%

Wives of Liberal Arts Alumni

A review of the educational backgrounds of wives shows that half are college graduates. In contrast to the one-to-one ratio for husbands, only one in ten wives holds an advanced degree (Table 11-3). Alumni from high-quality colleges are the most likely to have wives who are college graduates. A third of the wives attended the same undergraduate college as did their husbands. Income of alumni is not generally related to the educational level of wives, but it is worth noting that graduates in the lowest income bracket are more likely to have wives who are college graduates and who have advanced degrees.

TABLE 11-3

Education of Wives by the Year of Graduation, Quality of College, and Current Income of Husbands
(Includes only alumni who are or have been married)

"Answer the following for your wife (or if widowed or divorced and not remarried, answer on the basis of your former wife.) . . .

	Is she a college graduate?" (Percent "yes")	Does she have an advanced degree?" (Percent "yes")	Did she attend the same undergraduate college you did?" (Percent "yes")
All Graduates	50.1	9.6	31.2
Year of Graduation			
1948	48.8	10.6	30.1
1953	51.3	10.1	29.8
1958	50.3	8.2	33.8
Quality of College			
High	58.2	11.5	20.6
Medium	51.1	9.6	34.3
Low	43.7	8.5	33.4
Income			
Under $6000	53.9	13.4	30.0
$6000-9999	48.1	9.1	31.2
$10,000-14,999	49.9	9.6	30.7
$15,000-20,999	51.7	7.8	31.5
$21,000 or more	50.5	9.1	27.6

The working wife is the exception rather than the rule. Only 14 percent of the graduates' wives are working full-time and only 11 percent part-time (Table 11-4). As might be expected, wives of younger alumni are the most likely to be employed. This is true, however, only of full-time employment. Part-time employment of wives varies little according to year of husbands' graduation. Wives of graduates in the low income brackets are much more likely to be employed, full-time or part-time, than those earning high salaries. Although working wives are in a minority, some graduates are not adverse to the benefits of two salaries, as this typical comment reports:

TABLE 11-4

Whether Wives Have Full-time or Part-time Jobs by Husbands' Year of Graduation and Current Income
(Include only alumni who are or have been married)

"Answer the following for your wife (or if widowed or divorced and not remarried, answer on the basis of your former wife.) . . .

	"Is she employed full-time on a paid position?" (Percent "yes")	"Is she employed part-time on a paid position?" (Percent "yes")
All Graduates	14.2	11.0
Year of Graduation		
1948	12.0	12.1
1953	10.9	9.9
1958	20.6	10.8
Current Income		
Under $6000	29.9	14.2
$6000-9999	16.6	12.8
$10,000-14,999	9.9	8.7
$15,000-20,999	6.8	7.3
$25,000 or more	2.3	6.9

> With my wife working, the two of us make sufficient money to travel (two trips to Europe) or to allow me to loaf every summer if I desire. I can't complain. (University of Denver)

Role of Liberal Education in Preparing for Marriage

Graduates were asked whether they felt liberal education should help prepare for a happy marriage and family life (Table 11-5). Opinions are sharply divided: 48 percent feel college should perform this role, while 51 percent say it need not. The older alumni are somewhat more likely to feel that college should provide preparation for marriage. Students with high academic records are somewhat less likely to assign importance to this objective. Only slight variations appear by type of major.

TABLE 11-5

Role of College in Preparing for Marriage and Family Life by Year of Graduation, Type of Major, and Academic Record

Evaluation of following goal of liberal education: "Do you feel that liberal arts education should prepare for a happy marriage and family life? Did your education provide this?

	Prepare for a happy marriage and family life?"						Did your education provide this?"			
	Very Import.	Fairly Import.	Fairly Unimp.	Not Import. at all	No Answer	Total	Yes	No	No Answer	Total
All Graduates	17.5%	30.7	33.0	18.0	0.8	100.0%	38.5%	54.9	6.6	100.0%
Year of Graduation										
1948	19.8%	32.2	32.0	14.9	1.1	100.0%	38.8%	53.5	7.7	100.0%
1953	17.3%	30.9	33.2	17.9	0.7	100.0%	39.2%	55.0	5.8	100.0%
1958	15.5%	29.2	33.8	20.9	0.6	100.0%	37.4%	56.2	6.4	100.0%
Type of Major										
Science-Math	15.8%	30.4	35.5	17.5	0.8	100.0%	33.9%	59.7	6.4	100.0%
Soc. Sci.	18.3%	31.0	32.2	17.7	0.8	100.0%	41.4%	52.0	6.6	100.0%
Humanities	18.7%	30.6	30.8	19.3	0.6	100.0%	39.0%	53.8	7.2	100.0%
Academic Record										
High	12.1%	27.4	39.9	19.7	0.9	100.0%	34.8%	59.2	6.0	100.0%
Average	16.6%	32.2	33.5	18.0	0.7	100.0%	38.9%	54.7	6.4	100.0%
Low	21.2%	32.3	29.2	16.5	0.8	100.0%	41.6%	51.6	6.8	100.0%

How well did their education meet this objective? Less than 40 percent of the liberal arts graduates say that their education provided preparation for marriage and family life.

Family and Career

The married male respondents were asked a series of questions about their wives' opinions regarding various aspects of the husbands' careers. It should be emphasized that the data in the next three tables do not directly reflect wives' opinions but, rather, husbands' reports of wives' opinions.

The graduates report that only 8 percent of all wives feel their husbands should change occupations (Table 11-6). More wives (11 percent) feel that their

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TABLE 11-6

Wives' Satisfaction with Occupation and Employer by Year of Graduation, Current Income, and Occupation

(Includes only alumni who are or have been married)

"Answer the following for your wife (or if widowed or divorced and not remarried, answer on the basis of your former wife)...

	Does she feel you should switch to another occupation?" (Percent "yes")	Does she feel you should switch to another employer?" (Percent "yes")
All Graduates	8.3	10.9
Year of Graduation		
1948	7.6	8.1
1953	7.9	10.8
1958	9.7	14.5
Income		
Under $6,000	10.4	12.1
6000-9999	10.7	14.3
10,000-14,999	6.6	9.6
15,000-20,999	4.2	3.7
21,000 and over	2.2	2.6
Occupation		
Lawyer	4.1	9.7
Clergyman	3.6	4.7
Elem-Second. Teach.	8.3	12.7
College Teacher	3.0	11.9
Salesman	12.7	11.0
Social Serv. Worker	9.7	13.1
Medical Worker	2.4	8.9
Scientist-Math.	8.0	11.3
Fiscal-Office-Mgmt.	11.3	9.7
Creative Worker	5.3	12.4
Other	12.5	12.1

husbands should change employers. Wives of the younger graduates are somewhat more likely to desire these changes, especially in employers. Where income is low, wives are more inclined to feel that their husbands should change fields. By occupation, wives of salesmen and of fiscal, office, and management workers are the most likely to favor a change. Wives of medical workers, college teachers, clergymen, and lawyers are the most satisfied with their husbands' occupations, but wives of college teachers are among the most likely to favor a change in their husbands' employer.

How do wives feel about sacrifices in family life to further their husband's careers? One in three wives feels her husband spends too much time on his work (Table 11-7), especially those with husbands in high income brackets. Among

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TABLE 11-7

Extent to Which Wives are Willing to Make Sacrifices for Career by Year of Graduation, Current Income and Occupation

"Answer the following for your wife (or if widowed or divorced, and not remarried, answer on the basis of your former wife) . . .

	Does she feel you spend too much time on your work?" (Percent "yes")	Does she object to the travel which your job requires?" (Percent "yes")	Would she object if your job required that you move to a new community?" (Percent "yes")
All Graduates	33.4	14.4	19.6
Year of Graduation			
1948	35.4	14.8	24.9
1953	33.7	14.4	19.6
1958	30.8	13.9	13.6
Income			
Under $6000	35.7	8.6	8.1
6000-9999	30.5	12.3	18.1
10,000-14,999	33.7	18.7	19.4
15,000-20,999	37.8	15.7	27.2
21,000 and over	46.1	20.4	33.1
Occupation			
Lawyer	36.4	13.9	27.7
Clergyman	46.1	12.9	5.8
Elem.-Second. Teach.	36.7	8.5	20.1
College Teacher	37.1	10.8	14.6
Salesman	32.4	21.6	21.9
Social Serv. Worker	29.7	12.0	19.5
Medical Worker	42.3	9.1	20.4
Scientist-Math.	20.5	18.1	19.5
Fiscal-Office-Mgmt.	32.8	14.5	21.5
Creative Worker	30.2	14.2	23.2
Other	32.5	19.7	16.2

occupational groups, wives of lawyers and of medical workers are the most likely to feel their husbands work too much.

Only 15 percent of the wives object to their husbands' job-associated travel. Concern about travel increases sharply with rising income. Wives of salesmen are the most likely to object to their husbands' travel.

Twenty percent of the wives, according to their husbands, would object if they were required for career reasons to move to another community. Wives of the younger alumni and of those in lower income brackets are less likely to object to moving.

Seventy percent of the men say they discuss day-to-day job decisions with their wives, and 80 percent discuss major job decisions (Table 11-8). Less than

---

TABLE 11-8

Role of Wife in Job Decisions by Year of Graduation, Current Income and Occupation

	"Do you discuss day-by-day job decisions with your wife?" (Percent "yes")	"Do you discuss major job decisions with your wife?" (Percent "yes")	"Do you often follow your wife's advice about your job?" (Percent "yes)
All Graduates	70.2	79.3	36.1
Year of Graduation			
1948	67.1	79.3	38.6
1953	69.9	80.4	36.0
1958	74.1	78.3	33.4
Income			
Under $6000	80.1	82.8	41.5
6000-9999	73.4	80.5	36.8
10,000-14,999	65.4	78.0	32.0
15,000-20,999	64.0	75.9	34.2
21,000 and over	63.6	76.8	32.9
Occupation			
Lawyer	61.1	74.2	31.4
Clergyman	87.8	91.7	68.2
Elem-Second. Teach.	78.8	88.3	46.0
College Teacher	81.5	92.8	50.4
Salesman	73.1	78.4	34.8
Social Serv. Worker	70.0	84.3	31.6
Medical Worker	71.5	79.4	33.3
Scientist-Math.	59.0	73.9	26.6
Fiscal-Office-Mgmt.	65.1	73.9	30.0
Creative Worker	76.4	84.3	42.0
Other	67.1	71.5	30.3

40 percent, however, say they often follow their wives' advice about their jobs. The younger alumni are the least likely to accept their wives' advice, even though they most frequently discuss day-to-day job decisions. Clergymen and college teachers are consistently the most likely to consult with and to accept the advice of their wives. The least likely are scientists and mathematicians, lawyers, and fiscal, office, and management workers.

While not shown, there is a significant relationship between marriage or marital stability and attitude toward work. Among alumni who graduated 15 years ago, the percentage who liked their work "very much" varied from 74 percent of the married men to 68 percent of the single men to 56 percent of the divorced alumni. Comparable percentages for those who "disliked slightly" their work were three percent for married men, five percent for single men, and ten percent for divorced graduates.

A number of graduates commented on the roles of family and career. Typical are these:

> A major problem has been lack of time to spend with my family. A busy attorney must work nights and week ends. This creates a problem as my wife and children desire time also. The only solution is to budget your time. (Union College)

> Don't bring your work problems home or your home problems to work. (Arizona State University)

> The responsibility for a management position and a family are probably more severe than you can plan for as a student. The drive for personal success, the drive to help others, the devotion to family, these are often conflicting demands. Maintaining a balance in one's attempt to satisfy all these is indeed something of a challenge. (Xavier University)

Summary

Most (84 percent) of the liberal arts graduates are married. Marriage rates are higher among men who attended small or low-quality institutions, among graduates with poor academic records in college, among alumni who were science and mathematics majors, and among graduates from non-Catholic colleges.

More than half of the graduates were married either before or within a year after graduation from college. Holders of professional degrees were the most likely to postpone marriage until several years after graduation.

Half of the graduates' wives are college graduates, but only 10 percent hold advanced degrees. Alumni of high-quality colleges are the most likely to have wives who are college graduates. Working wives are a minority--only 14 percent work full-time and only 11 percent work part-time. Wives of graduates in the lower income brackets are the most likely to be employed.

Graduates are almost evenly divided in their opinions on whether liberal education should help prepare for a happy marriage and family life. Less than 40 percent, in any case, say that their education met this objective.

Wives, according to their husbands, are generally reasonably well satisfied with their husbands' choice of career. Only 6 percent of the wives feel their husbands should change occupations, and only 11 percent would like their husbands to change employers. Wives of younger graduates and of those in low income brackets are the most likely to want their husbands to change jobs.

A third of the wives feel their husbands spend too much time at their work. Wives of older graduates and of those in the higher income brackets are the most likely to object to their husbands' long hours. Fourteen percent of the wives object to job-associated travel by their husbands, with wives of salesmen the most likely to protest. One in five wives would object if her husband's job required a transfer to a new community. Those whose husbands are younger graduates or in low income brackets are the most amenable to accepting relocation.

Seventy percent of the graduates talk over day-to-day job decisions with their wives, and 80 percent discuss major job decisions with their wives. But less than 40 percent say they often follow their wives' advice.

Married men are more likely to like their work "very much" than are single men, and divorced men are the least likely to be satisfied with their work.

PART V. THE MEANING OF THE RESPONSES

The report on the results of the inquiry is now complete. It remains now to summarize them and to assess their implications for educational policy. This is the task taken up in this final part of the report.

Chapter 12: Conclusions and Implications

It is impossible to condense the responses from 11,000 individual graduates or to summarize 137 statistical tables into simple and precise conclusions. Here, an attempt will be made to focus on general conclusions and the implications which result from them. This final chapter will discuss, in turn, what the graduates said about their liberal arts education, their careers, and their life in their community, and then the implications for both liberal arts colleges and employers.

Conclusions Concerning Liberal Education

The liberal arts have constituted the core of American higher education since colonial times. This has remained true despite the tremendous growth in professional schools, in technical training, and in graduate programs during the current century. During the past six decades, enrollment in liberal arts has remained consistently at about 40 percent of the total for higher education.

The clearest message from alumni is one of strong support for liberal education, qualified, but endorsed by the overwhelming majority of its graduates.

Eighty-five percent of the respondents would take a liberal arts major if they were to begin college over again. Half would repeat their original choice, and a third would switch to a different major within liberal arts. Nearly 80 percent would advise a high school graduate of today to take a liberal arts program. When asked if they would like more, the same, or less of specific courses, the graduates said they would like more of almost everything. Some sentiment was expressed for longer undergraduate training of five years.

Related to this are three conclusions with some import for future decision-making on the part of liberal arts institutions.

1. Liberal education is not solely pre-professional. Half of its graduates hold no more than a bachelor's degree.

2. Liberal education provides good background for later life.

More than three-quarters of the graduates reported that their undergraduate education developed for them a fund of knowledge useful in later life. Just about as many also reported that it provided a broad fund of knowledge about different fields. Of various objectives of a liberal education, on which graduates were asked to comment, these were the two most frequently cited as being met. Substantially fewer graduates but still a majority said that their education had trained them in depth in at least one field.

Those who took graduate training viewed it as specific career preparation. Eighty-five percent of those with advanced training had a clear idea of their vocational goal when they entered graduate study. Only a fourth with graduate training took it to follow their own intellectual interests, rather than as an aid to their careers.

3. The graduates felt weak in their collegiate training in self-expression, despite its stated role in liberal education.

At many institutions, total required courses in English are limited to two and in speech to one or none. Forty percent of the alumni wish they had taken more work in these subjects.

Conclusions Concerning Their Careers

Far from experiencing career difficulties, the great bulk of the alumni are very satisfied with their occupations, their employers, and their progress. Liberal arts is highly regarded as preparation for career life, whether or not the graduates followed it with specialized training.

Their general career satisfaction is reflected in the optimistic response made by the two-thirds who said that their careers were more successful than their classmates. Over 90 percent like their occupations and their employers. Two-thirds expect to receive a promotion in the next three years. While they may complain about their salaries publicly, privately the alumni admit they are satisfied with their income. Both quality of college attended and individual academic record correlate with higher earnings in later life.

The traditional occupations of earlier liberal arts graduates--law, clergy, and medicine--are the choice of only 20 percent of today's alumni. Now, the most dominant fields are teaching at all levels and fiscal, office, and management positions. An almost even split divides the graduates employed by profit-making and public organizations. The fields in our society which are experiencing the greatest recent growth--education, government, and services--have special interest for liberal arts graduates.

The alumni reported that their careers were not always easy sailing. The greatest crisis occurred immediately after graduation. For many alumni, the first job was difficult to obtain, probably because they lacked the easy bridge from campus to career possessed by their colleagues from specialized curricula. It is possible that some liberal arts graduates handicapped themselves by seeking to relate their college major to a related occupational field, not realizing that liberal education's great value lies in its capacity as a base for many types of work.

The difficult period after graduation placed strong demands upon the optimism of youth, an optimism already marked as a result of intense competition in college. As David Riesman pointed out:

> The better the educational institution, the more likely it is to give students the feeling that they are incompetent and mediocre, and that they are not really very brilliant unless they are fantastically talented. If they are only moderately talented, say, in the top one-tenth of the population, they are likely to go to a graduate school

> or a good undergraduate institution and come out with the feeling of being only first rate second-raters.(1)

The post-college career uncertainty of liberal arts alumni also is reflected in their early changes of employer. Less than 30 percent were still with their original employer when the survey was conducted. Occupational changes are much less frequent; half the alumni have held only one job title during their careers and another 30 percent have held only two.

Not all the alumni are satisfied with their occupations or their employers. However, there is a remarkable consistency in their current preferences. The field which more alumni now wish they had entered is college teaching. Work with research institutes or organizations is a close second preference. Other areas now popular with alumni are medicine, law, and creative occupations. Alumni preferences are away from science and mathematics, sales, and fiscal, office, and management fields.

Conclusions Concerning Society

The most general change contrasting the college seniors of five, ten, and fifteen years before the survey and the young to middle-aged alumni who responded is the near universality of marriage. Eighty-six percent of the graduates now are married.

The graduates feel strongly that liberal education should help prepare for meaningful participation in the civic and cultural life of our society. Their active participation in community, political, and alumni affairs attests to the effectiveness of their training. To the extent that participation increases with older children and deeper neighborhood roots, the greatest involvement in community activities still lies ahead. Politically, the graduates are almost evenly divided between the left and the right and tend to have become more conservative since graduation from college.

Organizational memberships are much more related to careers than to social and personal needs. Seven out of every ten alumni belong to a professional association or society, in contrast to only two out of ten who have joined a service club or one out of ten, a veteran's organization.

For most alumni, formal education has been replaced by independent study and private, personal growth. The typical alumnus reads between 11 and 15 books each year and nine periodicals on a regular basis. Slightly more than half of these are related to his work. Four out of ten participate in literary or discussion groups. During the past year, two-thirds of all alumni attended two or more theatrical productions and one or more public lectures, and visited an art museum. Two out of three gave speeches during the past year and a fifth of the graduates published an article.

Religion has grown in importance since graduation. Six out of ten alumni attend religious services on a regular basis. The graduates feel that liberal education should enhance moral capacities and ethical standards.

Implications for Liberal Arts Colleges and for Employers

The sincere interest of the graduates in the survey and in the future of liberal education was evident in the long comments volunteered in many areas. Some of their recommendations appeared in the text. Here are some additional recommendations advanced on issues of more general policy.

1. The graduates feel that the clearest answer to many of the problems facing liberal education today is to concentrate on developing the highest-quality educational program. This high-quality program should attract the very students capable of being educated through it. The sentiments of many of today's alumni were reflected by John Ciardi when he was on the English faculty at Rutgers University. The present poetry editor of The Saturday Review said:

> The best product we can hope for--and a high product it is when achieved--is the man of general culture. This is what we have to offer at our best. If we can turn out such men, management will then have a responsible and responsive personality to work with. This is what we have to offer. And this we can achieve only when we seek the liberal arts for their own sake.(2)

2. While it was not universal, the majority of the alumni who commented felt that liberal arts institutions should stop apologizing because their courses lack immediate job practicality or compromising by introducing trade school courses. They echoed the sentiments of McGrath who feels that liberal arts colleges have slipped because they:

> . . . have attempted to become what they should not really be. They have attempted to change themselves into another type of institution while also trying to remain an ideal self of years long past. Instead of remaining the makers of men, they have become the makers of workers and of knowledge.(3)

To this Pierson adds another dimension, namely, the difficulty in trying to offer a high-quality, specialized program with inadequate resources. He points out, for example, that ten or more faculty members are required to offer a minimum acceptable program in business and economics.(4)

3. With the tremendous program content available within general education, too-early specialization is not necessary and could prove the downfall of the liberal arts college. Every attempt must be made to avoid turning the liberal arts college into a junior varisty graduate school. Rather than moving into narrower focus, experimentation in liberal education should move toward greater breadth of knowledge and development of the capacity to integrate this knowledge.

Some alumni felt that time could be saved if colleges avoided repeating courses adequately covered in high school or which would be encountered during professional training. In illustration, many of today's students take four courses in United States history at various levels of education, but often study no geography after the third or fourth grade.

If anything should be added to the liberal arts program, it might be more time for reflective thinking and independent study. In the midst of the frantic national competition in education which begins with nursery school and ends with post-doctoral fellowships, little time is allowed for thought and integration.

4. The importance of the faculty role was stressed in alumni comments; if general education is to be effective, it must be taught by persons with real interest in their students. In an era in which higher education is still assessing the impact of the student revolt of the mid-1960's, one might question why liberal arts colleges constantly adopt higher standards for admissions and charge higher tuition fees for their academic program and yet make increasingly fewer demands upon faculty for attention to students. Rather than wring their hands or blame the competition for faculty members, college administrators should strive for appointment and promotion standards on the basis of faculty ability to stimulate student development. To help start this process, it might be interesting to explore how federal financing might reverse its pattern of past programs and try to bring faculty members and general education students closer together.

5. Alumni were universal in condemning the lack of career guidance offered by the liberal arts college. As many emphasized, no students have a greater need for career orientation than those in general education programs. Where student counseling centers exist, their involvement in career counseling often is minimal. A sizeable number of counselors appear to subscribe to the theory that most requests for vocational guidance mask deeper, more personal problems. Where this is not the case, one still ends up with the impression that the best counselors assume that vocational guidance is beneath the level of their talents. The placement office usually is too occupied with necessary daily job crises to find time for undisturbed, in-depth career discussions. The real job of vocational orientation falls, undone, in the crack between the jurisdictions of the counseling center and placement office.

Even where attempted, this career counselling often fails because too many counselors limit their review of alternatives to those known from some prior experience. It is a 100-to-one bet that a social innovator, political leader, or industrial entrepreneur did not elect his occupation on the basis of advice from a career counselor. As a pair of critics put it: "One might imagine a present-day counselor exhorting Columbus to give up this mad confusion of sailing westward to find the East and settle down quietly in a pleasant villa on the outskirts of Genoa."(5)

6. While seeking to avoid specialization in lieu of general education, liberal arts colleges should encourage their students to plan a career. Experience has shown that students are strongly prone to postpone career planning. If more liberal arts students knew what they wanted in a job, they would avoid using the first job solely for orientation. A major source of employer resistance to liberal arts graduates is the clear feeling that a liberal arts student represents an uncertain employment risk. Given the choice of a seemingly career-oriented journalism graduate or a major in history, English, or sociology who can't verbalize his career plans, the typical editor will elect against liberal arts.

The author has passed the stage when he subscribes to the theory that

22-year-olds should be expected to map out their career plans for the next 43 years. However, competitive employment conditions demand the ability at least to verbalize a goal during that verbal intelligence test, the employment interview.

7. *More liberal arts colleges should consider whether they, like Antioch, should offer a cooperative work-study program*. Fewer graduates could benefit more from such a program than those in liberal arts. Yet, most such work-study arrangements are limited to students in engineering and business administration.

Never has it been more difficult for students to gain experience to help both in making intelligent career choices or in developing qualifications for potential employers. The continuing shrinkage in unskilled jobs, the restrictions on general hiring written into many union agreements, the decline in family-owned business and farms, the increasing number of students seeking summer positions, and the employment priority given in some areas to students from disadvantaged backgrounds make it more difficult for today's students to gain work experience. Where a paid position is not available, students should consider volunteer assignments. The concept of volunteerism, sparked by the Peace Corps, could be used to orient new generations of students concerning themselves and careers. Just as college students developed new maturity during World War II service, today's students could participate in work-study or sabbaticals for volunteer service to contribute both to personal and career development.

8. *In light of the fact that the majority of liberal arts students do not pick their career objective until during or after their senior year, suitable internship or trainee programs should be developed as career aids*. As an illustration, the great majority of liberal arts students, as seniors, are unable to consider careers in elementary or secondary school teaching because they lack prerequisite professional education courses. Expansion of internship programs which permit seniors to enter public school teaching would be of particular value to liberal arts colleges. Here, in the past, federal or foundation money has helped develop new approaches.

9. *Liberal arts colleges may play a more dominant role in helping to establish teacher certification programs in their various states*. They now play a major role in the preparation of teachers; Conant estimates that only 20 percent of our teachers are trained by institutions which can be clearly designated as teachers' colleges.(6) Indeed, during the bleak period of the 1930's, many liberal arts colleges remained solvent solely by virtue of the high number of their students enrolled in teacher training programs. One might add, however, that the high portion of students at otherwise liberal arts colleges who take professional education courses has done nothing to increase the respect paid by these institutions to study in education. Liberal arts institutions should admit to themselves the scope of their involvement in the training of teachers and take steps to bring this often-weakest link in their program up to the level of the total curriculum.

At the same time, rather than complain about certification requirements or bemoan the fact that they were established under the influence of representatives of the former state teachers' colleges, liberal arts college presidents and deans should review what is being done in their state to permit the best qualified--not the most certified--persons to teach. Here it is important to note that the basic foundation for a good teacher preparation program, according to Conant, is 60 hours of a strong general education core.(7)

10. Liberal arts colleges could do more to promote employment of their graduates. One necessary solution is to expand their college placement programs. At the same time, college presidents and other top officials could do more to use existing contacts with commercial organizations, governmental agencies, and social service institutions for the benefit of graduating students. The barrier which now exists between the colleges and employers may be largely attributed to lack of interest and support by the colleges themselves.

11. Liberal arts colleges should not ignore the career needs of their middle-aged alumni. Recently, with the aid of a grant from the Sloan Foundation, the Massachusetts Institute of Technology developed a Center for Advanced Study to help technical graduates update their education. For many years, special programs have catered to the career needs of women returning to the job market after raising their families. Now something might be done to help the many college graduates at the middle of their careers who, like many of the alumni in our study, find their talents are not being effectively or happily utilized. These men might be retrained for jobs in which shortages of top talent exist, such as running school systems, developing programs for fighting poverty, handling the complexities of city management, or coordinating the fiscal and human problems found in social service agencies. The poverty syndrome is not the only closed system in American society. Too many able liberal arts graduates are locked into systems of ever tightening pyramids of opportunity.

Several implications concern employers.

12. Employers should stop using liberal arts background as an excuse for an employment rejection. Instead of honestly pointing out some personal weaknesses that bar employment, too many personnel officers seek to preserve the candidate's ego by saying, "We really don't consider liberal arts graduates for this type of work." To a brand-new alumnus in the middle of what has been shown to be a difficult transition from the campus, this places a kiss of death upon a general education background.

13. The actual minimum training and experience required for each opening should be carefully reviewed by employers. This would help not only liberal arts graduates, but all types of job seekers. While few employment situations provide on-the-job training in accounting, calculus, or thermodynamics, much of what is covered in courses in personnel, marketing, or management could be acquired on the job. Personnel directors should do more than rubber-stamp job specifications; rather, a review of work experience and educational background should be made.

14. Formal training programs should be used to provide sufficient job skills for otherwise talented liberal arts alumni. In addition to courses for new entrants, career retraining or new skill development might be used at mid-career points. For alumni with job longevity and demonstrated employer loyalty, sabatticals for formal study or self-renewal might be provided.

15. Where the liberal arts college is part of a large university, it is too often by-passed by recruiters on their way to the engineering and business schools. Yet, some of these same recruiters visit the exclusively liberal arts colleges. The large number of graduates from liberal arts schools within major universities should be used as a prime recruiting source.

The most important conclusion made by the graduates is that, as a prerequisite for both personal life and a meaningful career, liberal arts education still meets the needs of today's alumni. This was not only true of the several alumni who identified themselves as falling in the $100,000-a-year salary bracket, but also characterized the replies from their classmates at the other end of the income scale. Hopefully, this study will encourage certain students to elect a liberal arts program, provide some factual data for use by educational and career counselors, and motivate the colleges themselves to take more interest in their own graduates.

FOOTNOTES

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Chapter 1: *The Changing Role of Liberal Education*, pp. 2-10

1. Nevitt Sanford (editor), *The American College* (New York: John Wiley and Sons, 1962), p. 805.

2. Manning M. Pattillo, "Foundations and the Private College," *Liberal Education* (Vol. 51, No. 4, December, 1965), p. 511.

3. Robert A. Gordon and James E. Howell, *Higher Education for Business* (New York: Columbia University Press, 1959), p. 44.

4. Clark Kerr, *The Uses of the University* (Cambridge: Harvard University Press, 1963), pp. 9-10.

5. John Henry Cardinal Newman, *The Idea of a University* (New York: Longmans Green and Co., 1947), xxvii.

6. *Ibid.*, p. 157.

7. William G. Cowley, "Three Curricular Conflicts," *Liberal Education* (December, 1960), p. 467.

8. George P. Schmidt, *The Liberal Arts College: A Chapter in American Cultural History* (New Brunswick: Rutgers University Press, 1957), p. 186.

9. John E. Millett, *Financing Higher Education in the United States* (New York: Columbia University Press, 1952), pp. 14-15.

10. From Robert A. Goldwin and Charles A. Nelson (editors), *Toward the Liberally Educated Executive* (White Plains: The Fund for Adult Education, 1959), p. 68.

11. Thomas J. Watson, Jr., from a speech delivered at the forty-sixth annual meeting of the American Council on Education (Washington, D.C., October, 1963).

12. Denis F. Johnston, "Uptrend of Worker's Education," *Occupational Outlook Quarterly* (VII, September, 1963), p. A-5.

13. Herman P. Miller, "Annual and Lifetime Income in Relation to Education: 1939-1959," *The American Economic Review* (Vol. 50, December, 1960), p. 968.

14. Comparison of Earned Degrees Awarded 1901-1962 with Projections to 2000 (Washington: National Science Foundation, 1964, NSF 64-2), pp. 7, 53, 54.

15. Marie G. Fullam and Frances E. Ryan, Earned Degrees by Field of Study and Level Projected to 1975, U.S. Office of Education Bulletin No. 31 (Washington: U.S. Government Printing Office, 1964).

16. C. P. Snow, The Two Cultures and the Scientific Revolution (New York: Cambridge University Press, 1959), p. 4.

17. Jacques Barzun, "College to University--and After," The American Scholar (Vol. 33, Spring, 1964), pp. 214-218.

18. Higher Education for American Democracy: A Report of the President's Commission on Higher Education (Washington: D. C., U.S. Government Printing Office, 1947), p. 47.

19. Robert A. Gordon and James E. Howell, op. cit., p. 143.

20. William G. Cowley, op. cit., pp. 467-483.

21. Fred M. Hechinger, "End of an Era?" New York Times Education Section (Section E, p. 7), December 15, 1963.

22. Goldwin and Nelson, op. cit., p. 112.

23. William J. Wallin, Chancellor of the New York State Board of Regents, in a speech reported in The New York Times (March 29, 1950).

24. Seymour E. Harris, The Market for College Graduates (Cambridge: Harvard University Press, 1949), p. 97.

25. Ibid., p. 13.

26. Ibid., p. 65.

27. Robert J. Havighurst, American Higher Education in the 1960's (Columbus: Ohio State University Press, 1960), p. 37.

Chapter 2: Research Rationale and Techniques, pp. 11-20

1. Procedures for selection of the sample of graduates were developed by William L. Nicholls II of the Survey Research Center of the University of California at Berkeley. Much of this chapter was written by him.

2. In his analysis of college alumni, for example, Havinghurst, op. cit., found it necessary to treat economic and educational data for men and women separately.

3. U.S. Office of Education, Educational Directory, Part III: Higher Education, for 1947-1948, 1952-1953 and 1957-1958 (Washington: U.S. Government Printing Office, 1948, 1953 and 1957, respectively).

4. As one **illustration** of disagreement between a formal statement and actual practice, one of the schools which subsequently declined to participate in the study wrote explaining that it granted a substantial number of liberal arts degrees but asking to be omitted as its role in liberal arts education was not countenanced by the state legislature, which supplied its funds.

5. *Earned Degrees Conferred by Higher Educational Institutions* for 1947-1948, 1952-1953 and 1957-1958, U.S. Office of Education Circular Nos. 247, 380 and 570 (Washington: U.S. Government Printing Office, 1948, 1953 and 1959, respectively).

6. This proved more complex than one would suspect. For example, Cornell University, described as a combination private-and-public institution in each year, was considered a private university since its liberal arts program appeared to be privately financed. Rutgers University, which was described as both public and privately supported in 1948 and 1953 and classified as a public school in 1958, was treated as a public school.

7. *Educational Directory*, 1952-1953, *op*. *cit*.

8. Paul F. Lazarsfeld and Wagner Thielens, Jr., *The Academic Mind* (Glencoe: The Free Press, 1958), p. 460.

Chapter 5: *Career Status of Liberal Arts Alumni*, pp. 58-77

1. When used in tables, "Other occupations" refers only to the composite of remaining fields as shown in the occupational index.

2. Wolfle, *op*. *cit*., p. 81.

3. Gary S. Becker, *Human Capital* (New York: National Bureau of Economic Research, 1964), p. 79.

4. *Ibid*., p. 154.

5. Francis H. Horn, "Forces Shaping the College of Arts and Science," *Liberal Education* (Vol. 50, No. 1, March, 1964), p. 10.

6. As the questionnaire asked general salary ranges only, all salaries between $1 and $4,000 were estimated to be $3,000 and all over $25,000 were estimated to be $30,000. Within the other ranges, salaries were assumed to be at the midpoint.

7. See Walter K. Keely, *Follow-Up Survey of Graduates of 1946, 1951, 1956* (New York University Placement Service, unpublished study), 1957; *Two Years After the College Degree*, *op*. *cit*.; *1948 Survey of Notre Dame Alumni* (South Bend: Alumni Association of Notre Dame, unpublished study).

Chapter 6: Career Patterns of Liberal Arts Alumni, pp. 78-92

1. Similar results were reported in a National Opinion Research Center study of 1961 college seniors. The most helpful sources of career advice were parents (60 percent were aided by them) and faculty members (57 percent). See James A. Davis, Undergraduate Career Decisions (Chicago: Aldine, 1965), p. 200.

Chapter 7: Factors Influencing the Careers of Graduates, pp. 93-115

1. Paul W. Chapman, Occupational Guidance (Atlanta: T. E. Smith and Co., 1937), p. 33.

Chapter 9: Intellectual and Cultural Interests of Liberal Arts Graduates, pp. 141-151

1. Sanford, op. cit., p. 34.

Chapter 10: Civic and Social Contributions of Liberal Arts Alumni, pp. 152-169

1. Peter H. Odegard, "The Social Sciences and Society," The Educational Record (Vol. 45, Spring, 1964), p. 197.

2. Gail Kennedy, Education at Amherst: The New Program (New York: Harper and Brothers, 1955), 330 p.

Chapter 12: Conclusions and Implications, pp. 183-190

1. The Peace Corps in an Educating Society, Report of a discussion held at The Brookings Institution, Washington, D.C., July 22, 1965.

2. John Ciardi, "The Art of Making Men," The Saturday Review (November 21, 1953), p. 43.

3. Earl J. McGrath, The Graduate School and the Decline of Liberal Education (New York: Techers College Press, 1959), p. vi.

4. Frank C. Pierson, The Education of American Businessmen (New York: McGraw Hill, 1959), p. 708.

5. Raymond Mammarella and Joseph Crescimberi, "Guidance Problems: Cultural or Cosmic?", The Saturday Review (Vol. 47, November 21, 1964), p. 76.

6. James B. Conant, The Educationof American Teachers (New York: McGraw-Hill, 1963), p. 74.

7. Ibid., p. 73-111.

APPENDICES

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Appendix A: Technical Notes(1)

This appendix contains the technical notes referred to in Chapter 2. It presents further elaboration of the survey and analysis methods, as well as documentation of general assertions appearing in that chapter.

Technical Note 1: Construction of the Quality Index

The quality index employed in this study closely parallels the index of academic quality developed by Lazarsfeld and Thielens in The Academic Mind.(2) The same six components were utilized and combined in a similar manner, although the weighting was modified to fit a different time period and a differing universe of institutions.

The six items included in the index were: (1) total volumes in the college or university library, (2) number of books per student enrolled, (3) annual budget per student, (4) proportion of Ph.D's on the faculty, (5) size of the tuition fee, with different scales for public and private institutions, and (6) academic achievement of alumni. The bearing of most of these items on quality is obvious. It might be noted, however, that size of tuition, perhaps the least obvious indicator of quality, has been shown to be a good predictor by Rogoff and Mitchell(3) and by Knapp and Greenbaum.(4)

Data for the first five items were obtained from the 1956 edition of American Colleges and Universities.(5) This edition, based on the 1954-55 academic year, was the closest available to 1952-53, the reference year employed for other characteristics of the schools in this study.

Since the two ratios, library books per student and budget per student, would be adversely affected as measures of quality by large evening or part-time student enrollments, some adjustment was necessary to avoid penalizing schools with a high portion of part-time students. Such adjustment was made whenever part-time students comprised more than 10 percent of the enrollment.(6) For such schools, 3.5 part-time students were counted as the equivalent of one full-time student, the ratio deriving from Ostheimer, who showed that full-time students during this period carried an average of 14 semester hours and part-time students four hours.(7) These adjusted enrollments then were divided into volumes in the library, for books per student, and total budget, for budget per student.

The final indicator of quality, academic achievement, is taken from Knapp and Greenbaum's The Younger American Scholar.(8) These investigators prepared rosters of graduates of the classes of 1946 to 1951 who received scholarly recognition between 1948 and 1952 in any of four ways:

1. Earned a Ph.D. from one of the 25 largest graduate schools in the nation. These schools awarded approximately 80 percent of all Ph.D.'s during this period.

2. Won a university fellowship or scholarship from one of these same institutions.

3. Received a fellowship or scholarship from one of nine private foundations.

4. Received a fellowship from the U.S. Public Health Service, the Atomic Energy Commission, or the U.S. Department of State (Fullbright Grant).

From these rosters, Knapp and Greenbaum developed indices of alumni productivity for each school, expressing the proportion of cited alumni among total graduates. Separate indices were prepared for male and female graduates. Since the present study deals only with men, the male index was used.

Data for each of the six indicators were arranged in a distribution of five catagories, and quality points were awarded as indicated in Table A-1. The catagories for academic achievement follow those of The Academic Mind. The others represent a compromise between intervals of equal size and an attempt to include approximately equal numbers of schools in each catagory. (Table A-1 is on page

The final quality scores were obtained by totalling the individual quality points on the six items. A relatively detailed distribution of schools by quality points is provided in Table A-2. For most purposes in the report, quality scores were grouped into three summary categories as follows: (Table A-2 is on page

High--27 to 30 quality points
Medium--19 to 26 quality points
Low--7 to 18 quality points

One final note. There is a clear relationship between size of an institution and its quality, at least as measured by our scale. As shown in Table 2-4 in Chapter 2, large schools tend to have higher quality scores than do the smaller colleges. In part, this is explained by one of the quality index components: total books in the school library. However, many smaller but renowned schools also exceeded the 300,000 volumes required for the top score here. More significantly, the linkage between size and quality suggests that in many cases the larger institutions have more resources for enriched programs.

Technical Note 2: Sampling Strata and Size of Mailing Sample

The tables on the following three pages present the strata employed in drawing the sample, the number of schools included in each stratum, and the number of graduates in each stratum and year who were included in the final sample and sent questionnaires. In addition, the tables indicate an ideal target size per stratum per year which would produce exact proportionality to the 1953 population. Departures from this ideal occurred when: (1) the preliminary oversample did not contain sufficient cases to reach this ideal; (2) an adjacent stratum was increased to compensate for this situation; and (3) the additional Catholic institution, not included in the original sample, was added for reasons explained in Chapter 2.

As explained in Chapter 2, sampling procedures differed for large schools (those with more than 100 liberal arts graduates in 1953), and for small schools

Table A-1

Distribution of Schools on Six Quality Items
(All 412 institutions in total universe)

Quality Measure and Categories Employed	Score Assigned	Number of Schools
Total volumes in school library		
Under 40,000	1 (Low)	56
40,000 - 79,999	2	130
80,000 -119,999	3	56
120,000 -299,999	4	90
300,000 and over	5 (High)	80
Books per student		
Under 30	1	49
30 - 59	2	135
60 - 89	3	101
90 - 119	4	48
120 and over	5	79
Budget per student		
Under $700	1	69
$700 - $999	2	107
$1,000 - $1,299	3	88
$1,300 - $1,599	4	61
$1,600 and over	5	87
Proportion of Ph.D.'s on faculty		
Under 25%	1	90
25 - 34%	2	109
35 - 44%	3	100
45 - 54%	4	62
55% and over	5	51
Annual tuition		
Public schools:		
Under $150	1	26
$150 - $249	2	35
$250 - $349	3	23
$350 - $449	4	29
$450 and over	5	16

Table A-1 (Continued)

Quality Measure and Categories Employed	Score Assigned	Number of Schools
Private schools:		
Under $300	1	23
$300 - $449	2	89
$450 - $549	3	64
$550 - $699	4	58
$700 and over	5	49
Academic achievement of alumni (Knapp and Greenbaum Index)		
No scholars (School not listed)	1	119
0.3 to 1.9% of graduates	2	70
2.0 to 3.9%	3	82
4.0 to 8.3%	4	73
9.1 to 61.2%	5	68

Table A-2

Distribution of Schools and 1952-53 Male Liberal Arts Graduates by Total Quality Score of School
(All 412 institutions in total universe)

Quality Score of School	Schools		1952-53 Male Liberal Arts Graduates	
	Number	Percent	Number	Percent
7 - 8	8	1.9%	346	0.6%
9 - 10	31	7.5	1,554	2.8
11 - 12	47	11.4	3,327	5.9
13 - 14	55	13.4	3,956	7.1
15 - 16	57	13.8	5,718	10.2
17 - 18	47	11.4	5,331	9.5
19 - 20	31	7.5	4,940	8.8
21 - 22	41	10.0	6,700	11.9
23 - 24	34	8.3	7,491	13.4
25 - 26	27	6.6	5,510	9.8
27 - 28	15	3.6	4,997	8.9
29 - 30	19	4.6	6,205	11.1
Total	412	100.0%	56,075	100.0%

(those with 100 or less). Table A-3 presents the strata and sample sizes for

Table A-3

Sampling Strata and Sample Sizes for Institutions with More than 100 Liberal Arts Graduates in 1952-53

Stratum		Number of Schools in Sample	Number of Graduates Per School Per Year	Total Number of Graduates			
				Target Size Per Year[d]	Sample for:		
Control	Quality Scores				1948	1953	1958
Catholic	10-14	4	59	235	234	236	232
	15-20	5[a]	56	223	278[a]	279[a]	281[a]
	21-25	2	56	111	112	112	112
	Total	11		569	624	627	625
Public	11-19	7	68	474	411	466	475
	20-22	8	67	538	486	541	536
	23-25	8[b]	68[b]	609	667	612	613
	26-29	5[c]	60[c]	421	476	422	422
		28		2042	2040	2041	2046
Private	11-20	9	62	560	558	558	567
	21-24	6[b]	63[b]	441	379	441	441
	25-28	9	63	505	504	504	504
	29-30	7[b]	69[b]	552	552	552	550
		30		2058	1993	2055	2062

[a] Includes one extra school, drawn as an alternate, but retained when original school which it was to replace decided to participate.

[b] This stratum includes one school chosen twice by probability proportionate to size sampling for which double samples of graduates were drawn.

[c] This stratum includes two schools chosen twice by probability proportionate to size sampling for which double samples of graduates were drawn.

[d] Target size is proportional to the 1953 population.

the large schools. Table A-4 presents the same information for the small schools.

Table A-4

Sampling Strata and Sample Sizes for Institutions with 100 or less Liberal Arts Graduates in 1952-53

Stratum		Number of Schools in Sample	Number of Graduates			
			Target Size Per Year[a]	Sample For:		
Control	Quality Scores			1948	1953	1958
Catholic	8-14	2	80	66	119	129
	15-20	1	39	38	39	39
		3	119	114	156	168
Public	8-11	1	79	78	36	79
	12-15	4	121	164	124	131
	16-23	2	124	52	74	115
		7	324	294	234	325
Private	7-13	7	239	194	199	190
	14-16	5	243	376	294	243
	17-21	6	217	170	176	209
	22-29	3	189	196	172	189
		21	888	936	841	831

[a] Target size is proportional to the 1953 population.

Technical Note 3: Estimating the Response Rate and Types of Non-response

To aid in estimating the response rate and types of non-response, careful records were kept of the outcome of the mailings to each respondent. The results as of the June 1964 cut-off date are shown in Table A-5. (Table A-5 is on page

Table A-5

Response to the Mailed Questionnaire

Outcome	Number
Returned, complete, and eligible	10,877
Returned, ineligible	277
Unlocatable	1,312
Inaccessible	5
No response or refused to answer	5,583
Total mailed	18,004

A subject was considered ineligible if his returned questionnaire or letter from him or a relative indicated that he was not a male, United States citizen, or foreign citizen residing in the United States who graduated from one of the sample schools with a liberal arts major in 1948, 1953, or 1958. A graduate was counted as unlocatable if questionnaires mailed to him were returned as undeliverable by the Post Office and no new address could be obtained from the Post Office or from his college or university. A graduate was classified as inaccessible if he was locatable but unable to answer because of illness or similar legitimate reason. Those classified "No response" are essentially a residual group not meeting the criteria for classification in any of the above categories. Of the 5,583 included here, 161 wrote letters stating they refused to answer or returned totally blank questionnaires.

A follow-up study was undertaken to gain additional information about the 5,583 who did not respond and to ascertain how they differed from the respondents. A systematic random sample of 555 was drawn and various approaches taken to reach them. A registered letter was first mailed to each asking for his completion of a brief questionnaire. Those not responding were next contacted by telephone if a telephone number could be obtained for them. At least three calls were made to each subject at his home or office before he was considered unreachable for the follow-up study. Those subjects without known telephone numbers were mailed a second registered letter asking for their cooperation. The outcomes of these activities are presented in Table A-6. (Table A-6 is on page

From these figures, projections may be made to the total population of 5,583 non-respondents. The methods employed and the assumptions underlying them were as follows:

Unlocatable: The proportion of unlocatables in the follow-up study was 47/555 or 8.45 percent. Assuming the same proportion in the total population of 5,583 non-respondents, 472 were unlocatable.

Table A-6

Response to Follow-up Study

Outcome	Number	
Unlocatable (registered letter undeliverable)		47
Contacted by phone or mail		420
Eligible and completed follow-up questionnaire	360	
Found ineligible	24	
Refused to cooperate	36	
Inaccessible (hospitalized, abroad for extended period, or classified assignment, etc. as reported by person at their last address)		17
Unreachable (registered letter delibered but unanswered, no telephone number available)		71
Total follow-up sample		555

Inaccessible: Inaccessibility is, of course, not relevant to those who are unlocatable, and could not be determined where the graduates proved to be unreachable. Among the remaining 437 persons, 17 were found inaccessible, or 3.89 percent of the total. Assuming the same proportion obtained among the 5,111 apparently locatable non-respondents, 199 were estimated as inaccessible.

Ineligible: Eligibility in the follow-up study could be ascertained only for those 384 subjects who were contacted and agreed to participate in the follow-up study. Of these, 24 or 6.25 percent proved to be ineligible respondents. Assuming the same proportion held among the 4,912 non-respondents estimated as both locatable and accessible (5,583 total non-respondents minus 472 unlocatables and 199 inaccessibles) the number of ineligibles among the non-respondents was estimated at 307. This left 4,605 subjects as locatable, accessible, and eligible but not responding.

One final adjustment was made in the figures. Eligibility, as determined either from the initial records or from the follow-up study, could be determined only for those who were both locatable and accessible. However, it seems likely that some of the unlocatables and some of the locatable but inaccessibles also would have proved to be ineligible if reached. An assumption was made that this proportion would be the same as among those who were locatable and accessible. This final adjustment resulted in 21 additional cases for the ineligibles and a corresponding reduction of 19 and 2 for the unlocatables and inaccessibles, respectively.

Taking all these estimates and adjustments into account, the final distribution of estimated outcomes is summarized in Table A-7.

Table A-7

Estimated Outcomes of Mailings Based on Redistribution of Non-Respondents

Outcomes				
Ineligible subjects				555
Eligible subjects				17,449
Unlocatable subjects			1,765	
Locatable subjects			15,684	
Inaccessible subjects		202		
Accessible subjects		15,482		
Returned questionnaire	10,877			
Did not return questionnaire	4,605			
Totals	15,482	15,684	17,449	18,004

From this information, three different types of response rates may be calculated as follows:

$$\text{Gross response rate} = \frac{\text{Number of eligible returns}}{\text{Number of subjects to whom mailed}} = 60.4 \text{ percent}$$

$$\text{Return rate of eligibles} = \frac{\text{Number of eligible returns}}{\text{Number of eligible subjects}} = 62.3 \text{ percent}$$

$$\text{Return rate of locatable, accessible, eligibles} = \frac{\text{Number of eligible returns}}{\text{Number of eligible, accessible, and locatable subjects}} = 70.2 \text{ percent}$$

Technical Note 4: Evaluation of Completeness of Sample and Review of Possible Non-response Bias

While the study appears to have been relatively effective in gaining the cooperation of those liberal arts graduates it reached, the return rate of 62.3 percent of the eligible subjects clearly permits the operation of substantial bias in the completed sample. In this final section, three kinds of evidence bearing on the quality and representativeness of the sample will be considered: variations in return rates, comparisons with the 1953 population, and comparison of responses between those who participated in the general survey and those who were contacted through the special follow-up.

The first type of evidence to be considered is the variation in return by year, control, size, and quality of school. These four variables are used throughout the analysis and are known for each subject whether or not he returned a questionnaire.

The results are given in Table A-8. They are presented as crude return rates,

Table A-8

Gross Response Rates by Year of Graduation, Control, Size, and Quality of College Attended
(Total population of graduates surveyed)

Years of Graduation and Control Size and Quality of College	Response Rate	Number Mailed
Year of graduation		
1948	59.2%	5,991
1953	60.8	5,956
1958	61.2	6,056
Control		
Catholic	53.0%	2,306
Public	57.4	6,980
Private	64.8	8,718
Size of college		
Under 1,000	68.7%	2,016
1,000-2,499	65.9	3,662
2,500-4,999	57.3	3,097
5,000-9,999	57.5	4,285
10,000-13,999	54.8	1,645
14,000 plus	58.8	3,299
Quality of College		
27-30 (high)	65.2	3,542
24-26	59.6	2,745
22-23	61.9	2,884
19-21	60.1	2,523
16-18	60.1	1,684
14-15	53.3	2,190
7-13 (low)	59.6	2,436

that is, the number of completed eligible returns divided by the total number mailed, as the estimation of more refined rates was not possible for each sub-group. The total return rate varied only slightly by year of graduation. As indicated earlier, a larger proportion of graduates were lost or replaced in drawing the sample for the class of 1948 than for other years, but, of those mailed to, members of this earlier class were about as likely to reply.

The returns varied more substantially by control of the school. Graduates of Roman Catholic institutions were least likely to respond and graduates of other private institutions most likely. These differences, however, partially reflect variations in response by the size and quality of the institutions. There was at least some slight tendency for graduates of smaller and high quality institutions to respond.

The complete sample, therefore, appears to have been slightly biased toward graduates of the smaller and higher-quality schools at the expense of those who attended the larger and lower-quality schools. Graduates of Catholic institutions also were less likely to respond, although some compensation for this was built into the sample in advance by the inclusion of one extra Catholic institution.

Another check is provided by comparing the returned samples for each year with the 1953 population which they were to approximate. These comparisons (Table A-9) also provide a test of a subsidiary objective of the sampling procedures, namely, the comparability of the three samples.

Before drawing conclusions from the table, two points should be made. First, the 1953 population figures are not a perfect criterion for representativeness. They include, for example, some foreign students, some borderline cases, and some errors which could not be removed from the population figures but which were eliminated in the sample. Their agreement with the sample figures, therefore, would not necessarily be complete even if the sample were perfectly drawn and executed. Second, the crucial figures to examine are the percent of graduates, not the number of schools. The sample was designed to provide a representative sample only of graduates, not of their institutions. It intentionally overrepresented schools with the largest numbers of liberal arts graduates through its probability proportionate to size sampling. The number of schools is shown only as a point of general information.

Taking the subsidiary objective first, it would appear that the three completed samples are at least approximately comparable in their proportions of graduates from schools of the various types represented. Some differences are observed between years. For example, the 1948 sample contains a larger proportion of private school graduates than does the 1958 sample, 53.5 vs. 50.2 percent. These differences, however, are small and seem unlikely to have any appreciable effect on comparisons made between the sample years on questionnaire items.

The objective of having the three samples proportionate to the 1953 population also seems to have been relatively well satisfied, with a few exceptions. Indeed, the return rate biases reported above appear to have had little effect on the representativeness of the samples. In part, this

Table A-9

Comparisons of Completed Samples by Year with 1953 Population

Control, Size, and Quality	Number of Schools in: Popula.	Sample	Percent of Graduates in: 1953 Popula.	1948 Sample	1953 Sample	1958 Sample
Control						
Catholic	44	14	11.5%	10.3%	11.7%	11.6%
Public	128	35	39.4	36.2	36.2	38.2
Private	240	51	49.1	53.5	52.1	50.2
Total = 100%	412	100	(56,075)	(3545)	(3625)	(3707)
Size						
Under 1,000	168	20	16.5%	12.4%	12.9%	12.9%
1,000 - 2,499	109	21	18.6	23.2	21.6	21.8
2,500 - 4,999	56	17	16.8	15.3	17.0	16.6
5,000 - 9,999	52	21	23.1	22.8	22.5	22.7
10,000 - 13,999	12	7	8.7	8.5	8.4	8.0
14,000 and over	15	14	16.3	17.8	17.6	18.0
Total = 100%	412	100	(56,075)	(3545)	(3625)	(3707)
Quality						
27-30 (high)	34	15	20.0%	21.2%	21.5%	20.9%
24-26	41	13	15.1	15.7	15.0	14.4
22-23	40	14	14.2	16.6	15.6	17.0
19-21	52	14	14.6	12.2	14.8	14.8
16-18	72	13	13.6	9.6	8.7	9.6
14-15	59	12	9.3	11.8	10.9	9.6
7-13 (low)	114	19	13.2	12.9	13.5	13.7
Total = 100%	412	100	(56,075)	(3545)	(3625)	(3707)
Size and Quality						
Under 2,500 27-30	16	3	4.1%	3.9%	3.9%	3.7%
19-26	68	14	10.8	13.3	13.5	14.3
7-18	193	24	20.3	18.4	17.1	16.7
2,500-9,999 27-30	13	8	8.6	10.6	10.7	10.6
19-26	47	15	18.0	15.0	15.8	15.8
7-18	48	15	13.3	12.5	13.0	12.9
10,000 and over 27-30	5	4	7.3	6.8	6.9	6.5
19-26	18	14	15.1	16.2	16.1	16.2
7-18	4	3	2.5	3.3	3.0	3.3
Total = 100%	412	100	(56,075)	(3545)	(3625)	(3707)

is attributable to the compensation provided by the addition of the extra Catholic institution.

The last set of figures in Table A-9 considers size and quality jointly. This breakdown is presented to illustrate the degree of comparability of the samples with the 1953 population and with each other that obtains when more than one characteristic is considered at a time. Similar tables, not shown, were prepared for control and size, and for control and quality. They evidenced comparable magnitudes of agreement.

Table A-10 compares the sample and population with reference to the

Table A-10

Comparison of Completed Sample with 1953 Population

Geographical Location of School and Type of Student Body	Number of Schools In: Popula.	Number of Schools In: Sample	Percent of Graduates In: 1953 Population	Percent of Graduates In: Total Sample
Geographic Location[a]				
New England	28	9	12.3%	10.9%
Mideast	68	22	24.5	22.1
Great Lakes	89	21	20.5	23.8
Plains	64	11	10.0	10.4
Southeast	84	14	13.7	11.2
Southwest	28	6	4.6	4.9
Rocky Mountains	15	6	3.5	3.8
Far West	36	11	10.8	12.9
Total = 100%	412	100	(56,075)	(10,877)
Male or Coed				
All male	45	11	15.7%	13.3%
Coed	367	89	84.3	86.7
Total = 100%	412	100	(56,075)	(10,877)
Predominantly Negro or Not				
Yes	13	2	1.4%	2.0%
No	399	98	98.6	98.0
Total = 100%	412	100	(56,075)	(10,877)

[a] For states included in each region, see Appendix D.

geographical location of the school and its type of student body. For these characteristics, the data were not readily available for the three different years separately. The table suggests, however, that at least the total completed sample was similar to the 1953 population in proportions who graduated from schools in the various regions and from schools with different types of student bodies.

The final comparisons are made with non-respondents. While the return rate bias does not appear to have seriously distorted the sample by school control, size, quality, and related variables, it remains possible that certain types of graduates, such as those who were more successful in their careers, were more likely to respond. Such an effect could operate across all schools and would not be detectable, therefore, by the foregoing analysis.

Recognizing this possibility, the follow-up study described in Technical Note 3 was undertaken with a 10 percent sample of the non-respondents. Some proved to be ineligible, inaccessible, or totally unlocatable, but of the remainder, 77 percent submitted to a brief telephone interview or completed a brief questionnaire sent by registered mail. By comparing this sample of non-respondents with those who completed the regular questionnaire, some indication may be gained of possible biases from selective response among those who were reached.

Table A-11 presents selected items from the follow-up study and comparable data from the general survey. The primary conclusion is that in many respects the general respondents and the follow-up respondents are quite similar. Only very small differences are observed by: (1) socio-economic background as measured by father's occupation, (2) undergraduate majors, (3) undergraduate majors they could choose if they began college now, (4) undergraduate grades, (5) current incomes, and (6) several attitudinal questions designed to measure occupational satisfaction.

The follow-up respondents do differ from the general respondents, however, in their occupations and types of employers. Almost half the follow-up respondents were employed in the private non-manufacturing sector of the economy, as contrasted to less than a third of the general respondents. Their occupations, not unexpectedly, are found to be typical of this sector, notably law, medicine, dentistry, fiscal management, creative professions, and communications. Apparently, the survey was more successful in reaching graduates who entered the public sector of the economy than in reaching at least these portions of the private sector.

There is also some evidence to suggest that the follow-up respondents may have been somewhat less enthusiastic about the value of a liberal arts education than the general respondents. While they were about as likely to believe that they personally received a good preparation for vocational life and no less likely to prefer a non-liberal arts major if they were to start over, they were less likely to recommend a liberal arts major to a high school student. This, in part, may have been attributed to the highly professional nature of the work of many of the follow-up respondents.

There is little evidence to suggest that follow-up respondents were less satisfied with their occupations, less successful in their jobs, or

Table A-11

Comparison of Respondents and Non-Respondents on Selected Items

(Based upon 10,877 respondents and 360 participants in the special survey of non-respondents)

Item	Respondents (N=10,887)	Non-Respondents (N = 360)
Father's Occupation at High School Graduation		
Professional or technical	20.0%	20.8%
Proprietor, official, or executive	32.5	32.0
Salesmen or clerical worker	10.7	12.1
Farm owner or manager	5.8	5.3
Skilled worker	15.1	14.1
Other manual worker	8.8	8.1
No father at time	6.6	5.9
No answer	.5	1.7
Undergraduate Major		
Chemistry	8.1%	9.3%
Other physical sciences	6.6	5.9
Biological sciences	13.4	14.6
Mathematics and statistics	5.2	2.5
Economics	13.8	11.5
Other social sciences	33.4	33.1
English, speech, and drama	11.7	14.3
Foreign languages	1.9	2.5
Philosophy and religion	3.7	4.8
Fine and applied arts	2.0	1.4
No answer	.1	-
Undergraduate Major if Were to Start Over		
Chemistry	5.7%	6.7%
Other physical sciences	5.9	4.2
Biological sciences	12.9	12.6
Mathematics and statistics	5.5	3.9
Economics	6.5	7.6
Other social sciences	25.2	23.9
English, speech, and drama	11.8	13.8
Other humanities	7.4	5.8
Business administration and accounting	9.2	8.7
Engineering and architecture	5.3	4.8
Other non-liberal arts	2.6	1.4
No answer	1.8	6.5

Table A-11 (continued)

Item	Respondents (N= 10,887)	Non-Respondents (N = 360)
Undergraduate Grade Average		
A (3.7 - 4.0)	2.8%	4.2%
B (2.8 - 3.6)	28.1	22.8
C (2.0 - 2.7)	43.9	46.4
D (Under 2.0)	3.5	3.6
Not available	21.8	23.0
Median grade point average	2.59	2.51
Current Occupation		
Lawyer	6.8%	11.2%
Clergyman	3.9	3.1
Elementary or secondary teacher or administrator	11.8	8.7
College teacher or administrator	5.2	6.2
Salesman	9.6	9.8
Social and related workers	4.0	2.0
Medical and dental	8.5	10.4
Science and mathematics	11.9	9.0
Fiscal, office, and management	16.9	19.1
Creative - communications	3.9	5.6
Other and student	10.4	11.0
No answer or no occupation	.9	4.0
Type of Employer		
Private manufacturing or mining	17.9%	13.2
Private non-manufacturing	29.7	47.8
Agriculture	0.3	0
Elementary or secondary school	10.3	8.7
College or university	8.8	7.3
U.S. Military service	4.5	3.1
Federal government	5.5	4.2
State or local government	4.1	3.4
Research organization	2.6	3.4
Hospital, church, clinic, or welfare organization	8.8	6.2
Other	0.3	-
No answer	7.3	2.8
Current Annual Salary		
Under $4,000	2.9%	2.8%
$4,000 - 5,999	8.1	5.9
$6,000 - 7,999	20.3	18.3
$8,000 - 9,999	19.2	18.5
$10,000 - 11,999	13.8	12.9
$12,000 - 14,999	11.1	10.7
$15,000 - 20,999	9.2	10.7
$20,000 - 24,999	1.2	1.7
$25,000 and over	4.1	5.1
No answer	10.1	13.5
Median income	$ 9,420	$9,720

Table A-11 (continued)

Item	Respondents (N = 10,877)	Non-Respondents (N = 360)
"How much do you like the kind of work you are doing?"		
Like very much	69.3%	65.2%
Like fairly much	22.2	27.0
Dislike slightly	4.4	3.4
Dislike greatly	1.1	0.6
Not applicable	0.8	2.5
No answer	2.2	1.4
"Do you wish you were in an occupation other than your present one?"		
Yes	10.2%	12.9%
Not sure	16.9	12.4
No	69.3	70.8
Not presently employed	1.8	2.2
No answer	1.8	2.7
"In contrast to your college classmates, would you say that your career has been more successful?		
Definitely yes	13.2%	11.8%
Probably yes	53.2	54.2
Probably no	28.1	18.2
Definitely no	2.2	1.1
Don't know, no answer	3.3	14.6
"I received a good preparation for vocational life."		
Strongly agree	16.8%	15.5%
Agree	55.9	59.3
Disagree	21.6	21.6
Strongly disagree	4.9	0.8
No answer	0.8	2.8
"I would advise a high school graduate to take a liberal arts major"		
Strongly agree	33.6%	20.2%
Agree	43.9	48.1
Disagree	15.6	19.1
Strongly disagree	4.7	2.5
No answer	2.2	10.1

less likely to be earning high salaries. In fact, it appears that the most successful graduates were least likely to have replied.

These conclusions must be hastily qualified, however, as applying only to those graduates who could be reached either by the main survey or the follow-up study. There is a group of non-respondents about whom virtually nothing is known. These are the graduates who proved totally unlocatable, either because their college had no address for them or because they were unreachable through their last known address. Such graduates comprised approximately 14 percent of all graduates of the cooperating institutions who might have been included in the survey. They must remain a potential and essentially inassessible bias in the results presented.

Appendix A: FOOTNOTES

1. As was true of Chapter 2, much of this appendix was written by William L. Nicholls II of the Survey Research Center of the University of California at Berkeley, who served as technical consultant for construction of the sample of alumni.

2. Lazarsfeld and Thielens, op. cit.

3. Natalie Rogoff and Robert E. Mitchell, College Board Members: A Comparative Analysis (unpublished research report, Bureau of Applied Social Research, Columbia University, 1957).

4. Robert Hampdon Knapp and Joseph J. Greenbaum, The Younger American Scholar: His Collegiate Origins (Chicago: University of Chicago Press, 1953).

5. Mary Irwin (Editor), American Colleges and Universities (seventh edition), (Washington: American Council on Education, 1956).

6. Full and part-time enrollments were ascertained by consulting Resident, Extension, and Adult Education Enrollment in Institutes of Higher Education: November, 1954, Circular No. 454 (U.S. Department of Health, Education, and Welfare, September, 1955).

7. Richard Ostheimer, A Statistical Analysis of the Organization of Higher Education in the United States, 1948-49 (New York: Columbia University Press, 1951).

8. Knapp and Greenbaum, op. cit.

Appendix B: List of Cooperating Colleges and Universities

Adams State College
Albright College
Arizona State University
University of Arkansas

Baylor University
Bethany College (West Virginia)
Boston College
Bowdoin College
Brooklyn College
Brown University

University of California, Berkeley
University of California, Los Angeles
Canisius College
Catholic University of America
University of Chicago
University of Cincinnati
Coe College
Colby College
Colgate University
Colorado State College
Colorado State University
Columbia University
Concordia College (Minnesota)
Cornell University

Dartmouth College
University of Dayton
Denison University
University of Denver
DePaul University
De Pauw University
Duke University

Earlham College
East Texas State Teachers College
Emory and Henry College

Florida State University
Fordham University
Franklin and Marshall College
Fresno State College
Furman University

George Washington University
Georgetown University
Goshen College

Hamline University
Hastings College
Hofstra College
College of the Holy Cross

College of Idaho
Illinois College
University of Illinois
Indiana Central College

University of Kansas

Louisiana State University

Marquette University
Miami University
Michigan State University
University of Michigan
University of Minnesota
Montana State University
Murray State College

New Mexico Western College
University of New Mexico
City College of New York
New York University

Oberlin College
Ohio State University
University of Oregon

Park College
University of Pennsylvania
University of Pittsburgh
Princeton University

University of Redlands
University of Richmond
Roosevelt University
Rutgers University

St. Anselm's College
St. Francis College (Pennsylvania)
St. John's College (New York)
St. Louis University
San Jose State College
Seattle Pacific College
State University of South Dakota
University of Southern California
Stanford University
Stetson University
Syracuse University

Talladega College
University of Texas
Tufts University
Tulane University

Appendix B, Cont'd.

Union College (Kentucky)
Union College (New York)
University of Virginia

Washburn University
Washington University
University of Washington
Wayne State University
Willamette University
University of Wisconsin

Xavier University (Louisiana)

Yale University

Appendix C: Survey Questionnaire

THE LIBERAL ARTS GRADUATE

A Study of 1948, 1953 and 1958 Alumni

Survey Research Center
University of California
Berkeley 4, California

A STUDY OF THE LIBERAL ARTS GRADUATE

GENERAL INSTRUCTIONS: Please answer the questions as frankly and accurately as you are able. Most of the questions can be answered by simply checking the appropriate category or box. For example:

Did you graduate from college? (*Check one*)

No .... ☐

Yes .... ☒

1. List below the names, locations, dates, and degrees (if any) of all undergraduate, graduate, and professional schools that you have ever attended. List the schools in the order in which you attended them. (Exclude schools in which you attended only a summer session.)

College or University	City and State	Years Attended		Degree (if any)	Major Field
		From	To		

Questions 2 through 16 deal with your undergraduate education.

— — — — —
(1–5)

2. As an undergraduate student, where did you live for *the longest period* of time while in college? (*Check one*)

School residence hall .... ☐1
Private boarding house .... ☐2
Fraternity house .... ☐3
Parent's home .... ☐4
Room or apartment in non-student house .... ☐5
Cooperative house .... ☐6
Veteran's housing .... ☐7
Other (*Please specify*) ________________________________ ☐8

6/x

3. Which of the following contributed to your expenses while you were in college? (*Check all that apply*)

Scholarships ☐1
G. I. Bill of Rights ☐2
Summer employment ☐3
Part-time employment during school year ☐4
Loan funds ☐5
Other (*specify*) ☐6 7/

4. What portion of your total expenses at college did you earn yourself? (*Check one*)

None ☐1
1%–25% ☐2
26%–50% ☐3
51%–75% ☐4
76%–100% ☐5 8/x

5. As best you can remember, what was your cumulative (overall) grade average for undergraduate work at the college from which you received your bachelor's degree? (*Check one*)

A ☐1
A– ☐2
B+ ☐3
B ☐4
B– ☐5
C+ ☐6
C ☐7
C– ☐8
D+ ☐9
D or lower ☐0
I don't remember ☐y 9/x

6. To what extent were you concerned about how well you were doing academically? (*Check one*)

I was deeply concerned ☐1
I was concerned quite a bit ☐2
I was little concerned ☐3
I was not concerned at all ☐4 10/x

7. Compared to other students in your class in college, how hard would you say you worked on your studies? (*Check one*)

Considerably *harder* than average ☐1
Somewhat *harder* than average ☐2
About the *same* as average ☐3
Somewhat *less* than average ☐4
Considerably *less* than average ☐5 11/x

8. To what extent did you participate in varsity athletics? (*Check one*)

No participation ☐1
Participated, but no varsity letter ☐2
Participated, earned one varsity letter ☐3
Participated, earned two or more varsity letters ☐4 12/x

9. How would you classify your participation in each of the following extra-curricular activities? (*Check one on each line*)

	No Participation	Some Participation	Active participation but held no major office or responsibility	Active participation and held major office or responsibility	
Social fraternity	☐1	☐2	☐3	☐4	13/x
Editorial staff of a college publication	☐1	☐2	☐3	☐4	14/x
Student government	☐1	☐2	☐3	☐4	15/x
Dramatics or debating	☐1	☐2	☐3	☐4	16/x
Choral, orchestra or band	☐1	☐2	☐3	☐4	17/x
Departmental clubs	☐1	☐2	☐3	☐4	18/x
Political clubs or organizations	☐1	☐2	☐3	☐4	19/x
Religious clubs or organizations	☐1	☐2	☐3	☐4	20/x
Intramural sports	☐1	☐2	☐3	☐4	21/x

10. How much personal contact did you have with faculty members? (*Check one*)

A great deal ☐1
Some contact ☐2
Very little contact ☐3
None at all ☐4 22/x

11. To what extent do you agree or disagree with each of the following statements about your undergraduate training? (*Check one on each line*)

	Strongly Agree	Agree	Disagree	Strongly Disagree	
My professors were really interested in their students	☐1	☐2	☐3	☐4	23/x
I received good training in how to express my ideas clearly	☐1	☐2	☐3	☐4	24/x
I received good preparation for my vocational life	☐1	☐2	☐3	☐4	25/x
There was too much emphasis on social life and on non-academic matters outside the classroom	☐1	☐2	☐3	☐4	26/x
The courses I took were, on the whole, quite challenging and interesting	☐1	☐2	☐3	☐4	27/x
My classmates often asked me for help in their studies	☐1	☐2	☐3	☐4	28/x
I often asked my classmates for help with my studies	☐1	☐2	☐3	☐4	29/x
I would advise a 1963 high school graduate to take a liberal arts major	☐1	☐2	☐3	☐4	30/x
I spent a lot of time discussing intellectual issues with my classmates	☐1	☐2	☐3	☐4	31/x

12. Here is a list of subjects which may have been offered in your undergraduate college. To the best of your memory, how many courses did you take in each subject, and how do you now feel about them. (Do not include courses taken in graduate school.) (*Answer both Column A and Column B*)

In COLUMN A, please indicate how many courses you took in each field.

In COLUMN B, please indicate whether you now wish you had taken more, the same, or less courses in each of these subjects. In answering, assume your school offered courses in each field.

	COLUMN A How many undergraduate courses did you take in each subject? (*Check one on each line*)				**COLUMN B** Do you wish now that you had taken more, the same, or less courses in each subject? (*Check one on each line*)			
	None	One	Two or Three	Four or More	Less	The Same	More	
1. Accounting	☐1	☐2	☐3	☐4	☐7	☐8	☐9	32/
2. Agriculture	☐	☐	☐	☐	☐	☐	☐	33/
3. Anthropology	☐	☐	☐	☐	☐	☐	☐	34/
4. Art or Art History	☐	☐	☐	☐	☐	☐	☐	35/
5. Biology, Botany, Zoology	☐	☐	☐	☐	☐	☐	☐	36/
6. Business Administration (other than accounting)	☐	☐	☐	☐	☐	☐	☐	37/
7. Chemistry	☐	☐	☐	☐	☐	☐	☐	38/
8. Economics	☐	☐	☐	☐	☐	☐	☐	39/
9. Education	☐	☐	☐	☐	☐	☐	☐	40/
10. Engineering	☐	☐	☐	☐	☐	☐	☐	41/
11. English	☐	☐	☐	☐	☐	☐	☐	42/
12. Foreign language	☐	☐	☐	☐	☐	☐	☐	43/
13. General Humanities	☐	☐	☐	☐	☐	☐	☐	44/
14. General Science	☐	☐	☐	☐	☐	☐	☐	45/
15. General Social Sciences	☐	☐	☐	☐	☐	☐	☐	46/
16. Geography	☐	☐	☐	☐	☐	☐	☐	47/
17. Geology	☐	☐	☐	☐	☐	☐	☐	48/
18. History	☐	☐	☐	☐	☐	☐	☐	49/
19. Journalism	☐	☐	☐	☐	☐	☐	☐	50/
20. Mathematics	☐	☐	☐	☐	☐	☐	☐	51/
21. Music or Music History	☐	☐	☐	☐	☐	☐	☐	52/
22. Physical Education	☐	☐	☐	☐	☐	☐	☐	53/
23. Physics	☐	☐	☐	☐	☐	☐	☐	54/
24. Philosophy	☐	☐	☐	☐	☐	☐	☐	55/
25. Pre-medical	☐	☐	☐	☐	☐	☐	☐	56/
26. Political Science or Government	☐	☐	☐	☐	☐	☐	☐	57/
27. Psychology	☐	☐	☐	☐	☐	☐	☐	58/
28. Religion	☐	☐	☐	☐	☐	☐	☐	59/
29. ROTC	☐	☐	☐	☐	☐	☐	☐	60/
30. Sociology	☐	☐	☐	☐	☐	☐	☐	61/
31. Speech	☐	☐	☐	☐	☐	☐	☐	62/
32. Others (*Please specify*)								
....	☐	☐	☐	☐	☐	☐	☐	63/
....	☐	☐	☐	☐	☐	☐	☐	64–79/R
								80/1

13. Using the numbers on the left of the subjects in Question 12, please answer the following questions. 1-5/I.D.

a. What was your major? .... ____________ *write in number* 6-9/

b. Did you switch from any previous majors?
No ☐ Yes ____________ *write in number* 10-13/

c. If you could start college all over again, what field would you major in?
____________ *write in number* 14-15/

d. Which *two* subjects did you *most enjoy* taking?
The most enjoyable .... ____________ *write in number* 16-17/
The next most enjoyable .... ____________ *write in number* 18-19/

e. Which *two* subjects did you find the *most difficult?*
The most difficult .... ____________ *write in number* 20-21/
The next most difficult .... ____________ *write in number* 22-23/

f. Which *two* subjects had the *best teachers?*
The best teachers .... ____________ *write in number* 24-25/
The next best teachers .... ____________ *write in number* 26-27/

g. Which *two* subjects have you found *most useful* in your career?
The most useful .... ____________ *write in number* 28-29/
The next most useful .... ____________ *write in number* 30-31/

14. While in college, did you ... (*Check one on each line*)

	Yes	No	
Take a senior seminar course?	☐1	☐2	32/x
Write a thesis in your major subject?	☐1	☐2	33/x
Obtain membership in Phi Beta Kappa?	☐1	☐2	34/x
Graduate with academic honors (cum laude, etc.)?	☐1	☐2	35/x
Complete an advanced Army, Navy, or Air Force ROTC?	☐1	☐2	36/x

15. Listed below are some things which different people want to receive from a liberal arts education. (*Answer both Column A and Column B*)

In COLUMN A, please indicate the extent to which you now think that these are important.

In COLUMN B, irrespective of how important you consider each of these, please indicate the extent to which your education provided each.

	COLUMN A Importance of each objective (*Check one on each line*)				**COLUMN B** Did your education provide this? (*Check one on each line*)		
Liberal arts education should . . .	Very important	Fairly important	Fairly unimportant	Not important at all	Yes	No	
Develop ability to get along with different types of people . .	☐1	☐2	☐3	☐4	☐7	☐8	37/
Provide a broad fund of knowledge about different fields	☐	☐	☐	☐	☐	☐	38/
Develop social poise	☐	☐	☐	☐	☐	☐	39/
Develop a fund of knowledge useful in later life	☐	☐	☐	☐	☐	☐	40/
Prepare for a happy marriage and family life	☐	☐	☐	☐	☐	☐	41/
Develop a sense of responsibility to participate in community and public affairs	☐	☐	☐	☐	☐	☐	42/
Develop moral capacities, ethical standards and values	☐	☐	☐	☐	☐	☐	43/
Train a person in depth in at least one field	☐	☐	☐	☐	☐	☐	44/

16. If you could start college all over again, would you still attend the same college you earned your degree from? (*Check one*)

Yes, would attend the same college . . . . ☐1

Not sure whether would attend the same college . . . . ☐2

**No, would definitely attend a different college . . . . ☐3 45/x

***If "No,"* what college? (*write in*)..

OTHER ACADEMIC TRAINING

17. Aside from the degrees which you now hold, do you anticipate receiving any graduate or professional degree in the next few years? (*Check one*)

No . . . . ☐1

Maybe . . . . ☐2

**Yes . . . . ☐3 46/x

***If "Yes,"* what degree? ....

In what field? ....
(*write in*)

18. Generally speaking, do you feel that advanced academic training is important to people working in your field? (*Check one*)

Yes, it is essential . . . . ☐1
Yes, it is desirable . . . . ☐2
No, it would be only slightly helpful . . . . ☐3
No, it would be of no use at all . . . . ☐4 47/x

19. ANSWER QUESTION 19 ONLY IF YOU HAVE ATTENDED GRADUATE OR PROFESSIONAL SCHOOL. Please indicate the extent to which you agree or disagree with each of the following statements concerning graduate or professional education. (*Check one on each line*)

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	
On balance, I benefited more from my undergraduate education than from graduate or professional school	☐1	☐2	☐3	☐4	☐5	48/x
Graduate or professional school was more difficult than undergraduate education	☐1	☐2	☐3	☐4	☐5	49/x
Graduate school was really a waste of time	☐1	☐2	☐3	☐4	☐5	50/x
Liberal arts was essentially preparation for graduate school, rather than training useful for my field	☐1	☐2	☐3	☐4	☐5	51/x
Without graduate school, I would feel that my education was not complete	☐1	☐2	☐3	☐4	☐5	52/x
Graduate study helped me avoid being stuck at a low level in my field	☐1	☐2	☐3	☐4	☐5	53/x
I took graduate study primarily to follow my own intellectual interests, rather than because it might help my career	☐1	☐2	☐3	☐4	☐5	54/x
I entered graduate school with a fairly clear idea of my vocational goal	☐1	☐2	☐3	☐4	☐5	55/x

Please be sure not to omit any questions. Our interpretation of the valuable information you have given us requires that we have complete answers to *all* questions.

YOUR CAREER

20. List below all the organizations by which you have been employed on a full-time basis since you received your *bachelor's* degree. (Exclude periods of full-time study, short-term military service, or times when you were unemployed or between jobs.)

List the organizations in order, beginning with the *first*. Questions 21, 22, 23 and 24 will be answered on the basis of these organizations.

	Years From	To	Name of Organization	Column A Employer	Column B Self-employed	Column C Occupation	Column D Reason—job change
1							
2							
3							
4							
5							
6							
7							
8							

21. **In COLUMN A** above, classify each type of employer. Do this by writing the appropriate category number below in the corresponding position in Column A.

(Illustration: If your first employer was a city government, you would write *9* in Column A for the first organization above. If you worked for a department store on your second job, write *2* in Column A for the second organization above.)

1. Private manufacturing or mining concern (e.g., steel plant, clothing factory, oil refinery)
2. Private non-manufacturing (e.g., telephone company, construction company, wholesale or retail trade, law office)
3. Agriculture (privately owned farm)
4. Elementary school
5. Secondary school
6. College or university
7. U. S. Military service
8. Federal government (exclude teaching)
9. State or local government (exclude teaching)
10. Research organization or institute
11. Hospital, church, clinic, or welfare organization
12. Other

22. **In COLUMN B** above mark an "X" for each organization in which you were self-employed.

23. **In COLUMN C** above classify your primary job responsibility in each organization. Do this by using the number which appears before the job listed below.

   (Illustration: If you were a teacher in the third organization, write *31* in Column C for your third employing organization.)

1. Accountant or auditor
2. Actuary
3. Architect
4. Banking or finance employee
5. Biological scientist
6. Buyer or assistant buyer
7. Chemist
8. Clergyman
9. Dentist
10. Editor, journalist or writer
11. Educational administrator
12. Engineer
13. Farmer or agricultural worker
14. Government official, not otherwise listed
15. Health worker, not otherwise listed
16. Lawyer
17. Manager of a store, hotel, etc.
18. Mathematician or statistician
19. Military serviceman
20. Office worker
21. Personnel worker
22. Physician
23. Physicist
24. Psychologist
25. Production worker
26. Salesman, within retail store
27. Salesman, general or outside
28. Salesman, life insurance
29. Social or welfare worker
30. Social scientist
31. Teacher

Other, write in

32. ....
33. ....
34. ....
35. ....
36. ....

24. Here is a list of reasons why people sometimes leave one job for another. In **COLUMN D** above, indicate the *one* reason which *best* explains why you left each organization. Do this by writing in Column D the number which appears before the most appropriate category listed below.

   (Illustration: If you left your first position because there was no opportunity for promotion, write *2* in Column D after your first organization)

1. I wanted a different geographical location
2. There was no opportunity for promotion
3. I didn't particularly like the people I worked with
4. I wished to earn more money
5. My employer had to cut back his staff, or he went out of business
6. I didn't like the kind of work I did
7. An unsolicited, more attractive opportunity was offered to me
8. My employer felt I was unsuited personally for the work
9. My employer felt my job skills were not adequate
10. I wished to return to full-time study
11. I am still working for this organization
12. Other ....

25. Approximately how many offers of "solid job opportunities" did you have at the time you accepted your first and your current job? (*Check one in each "vertical" column*)

	Your first job	Current job
One	☐1	☐1
Two	☐2	☐2
Three or four	☐3	☐3
Five or more	☐4	☐4

56/
57/

26. Which was the ***single most helpful*** source responsible for your obtaining each of the jobs which you have held? *(Check one in each "vertical" column)*

	First Job	Second Job	Third Job	Fourth Job	Fifth Job	
College placement office	☐1	☐1	☐1	☐1	☐1	
Faculty advisor or professor	☐2	☐2	☐2	☐2	☐2	
Direct personal application	☐3	☐3	☐3	☐3	☐3	
Private employment agencies	☐4	☐4	☐4	☐4	☐4	
State employment services	☐5	☐5	☐5	☐5	☐5	
Family contacts	☐6	☐6	☐6	☐6	☐6	
Personal friends	☐7	☐7	☐7	☐7	☐7	
Want ads	☐8	☐8	☐8	☐8	☐8	
Professional societies or contacts .	☐9	☐9	☐9	☐9	☐9	58/
New employer contacted me directly	☐0	☐0	☐0	☐0	☐0	59/
Other (*please specify*)	☐y	☐y	☐y	☐y	☐y	60/ 61/

27. Since receiving your bachelor's degree, approximately how long have you been unemployed or between jobs? 62/

Write in total months ....months 63-64/

28. How much do you like: *(Check one on each line)*

	Like very much	Like fairly much	Dislike slightly	Dislike greatly	Not Applicable	
The kind of work you are doing .	☐1	☐2	☐3	☐4	☐5	65/x
The supervisors for whom you work	☐1	☐2	☐3	☐4	☐5	66/x
The colleagues who work with you	☐1	☐2	☐3	☐4	☐5	67/x
The people who work for you ...	☐1	☐2	☐3	☐4	☐5	68/x
Your income from your job	☐1	☐2	☐3	☐4	☐5	69/x
Your employer's promotion policy	☐1	☐2	☐3	☐4	☐5	70/x

29. What was your annual salary when you began your *first* full-time job after receiving your bachelor's degree? $................................ *(write in amount)* 71-73/

30. What is your current annual salary in your present position? $............................. *(write in amount)* 74-76/

31. Approximately how many other people work for the total organization by which you are employed? (*Check one*)

Under 4 .... ☐1
4-10 .... ☐2
11-20 .... ☐3
21-40 .... ☐4
41-100 .... ☐5
101-300 .... ☐6
301-1,000 .... ☐7
1,001-3,000 .... ☐8
3,001-10,000 ...... ☐9
over 10,000 .... ☐0

77/x
78-79/R
80/2

32. How many employees do you directly supervise? (*Check one in each "vertical" column*)

	Clerical, laboratory and sub-professional	Professional and Managerial	
None	☐	☐	1-5/I.D.
1	☐	☐	
2	☐	☐	
3	☐	☐	
4–7	☐	☐	
8–10	☐	☐	
11–20	☐	☐	6/
Over 20	☐	☐	7/

33. Do you wish you were in an *occupation* other than your present one? (*Check one*)

Not presently employed ☐
No ☐
Not sure ☐
Yes: which one? ________ (write in) ☐ 8/x

34. Do you wish you were working for an *employer* other than your present one? (If self-employed, would you like to become an employee of someone else?)

Not presently employed ☐
No ☐
Not sure ☐
Yes (what type of employer?) ________ (write in) ☐ 9/x

35. Please answer each of the following. (*Check one on each line*)

	Quite a lot	A fair amount	A little	None	
Does your position involve speaking, reading, or writing a foreign language?	☐	☐	☐	☐	10/x
Does your work involve much writing?	☐	☐	☐	☐	11/x
Does your work involve much creative thinking?	☐	☐	☐	☐	12/x
Do you frequently take work home with you or come into your office after working hours or on weekends?	☐	☐	☐	☐	13/x

36. Please answer each of the following. (*Check one on each line*)

	Definitely Yes	Probably Yes	Probably No	Definitely No	
Contrasted with your college classmates, would you say that your career had been more successful?	☐	☐	☐	☐	14/x
Would you be willing to move to another state to accept a promotion or a better job?	☐	☐	☐	☐	15/x
In the next three years, do you think you will change to another occupation?	☐	☐	☐	☐	16/x
In the next three years, do you think you will change to another employer?	☐	☐	☐	☐	17/x
In the next three years, do you expect to receive a promotion?	☐	☐	☐	☐	18/x
In the next three years, do you expect to enroll as a full-time student?	☐	☐	☐	☐	19/x

37. Below are some of the characteristics often associated with occupations and professions. *(Answer both Column A and Column B)*

In COLUMN A, please indicate how important each characteristic is to you.
In COLUMN B, please indicate the extent to which your current job has each characteristic?

COLUMN A Importance to you . . . *(Check one on each line)*					COLUMN B Characteristic of your present job *(Check one on each line)*				
Very	Some	Little	None		To a high degree	Moderately	Slightly	Not at all	
☐1	☐2	☐3	☐4	Opportunity to use my special abilities	☐5	☐6	☐7	☐8	20/
☐	☐	☐	☐	Chance to earn a great deal of money	☐	☐	☐	☐	21/
☐	☐	☐	☐	Permit me to be creative and original	☐	☐	☐	☐	22/
☐	☐	☐	☐	Give me social status and prestige..	☐	☐	☐	☐	23/
☐	☐	☐	☐	Enable me to look forward to a stable future	☐	☐	☐	☐	24/
☐	☐	☐	☐	Leave me relatively free of supervision	☐	☐	☐	☐	25/
☐	☐	☐	☐	Give me a chance to exercise leadership	☐	☐	☐	☐	26/
☐	☐	☐	☐	Give me an opportunity to help others	☐	☐	☐	☐	27/

SELECTION OF A GOAL

38. Have you set yourself a type of occupation or career line which you would like to follow? *(Check one)*

No *(If "No" skip to 40)* .... ☐1
Yes—and I am now working toward my objectives .... ☐2
Yes—but as yet I have not been able to start working toward my objectives ☐3 28/x

39. If you have selected an occupational goal or career objective, when did you make this selection? *(Check one)*

Before entering college .... ☐1
During the first three college years .... ☐2
During the senior year .... ☐3
During graduate school .... ☐4
During first three years after leaving school .... ☐5
Between four and six years after leaving school .... ☐6
Over six years after leaving school .... ☐7
Other *(Please specify)* ________________________________ ☐8 29/x

40. While you were in college, did you make use of the following sources of career assistance and how helpful was each in aiding you to select an occupation? (*Check one on each line*)

	Did not refer to this source	Referred to this source and found it of little or no use	Referred to this source and found it somewhat useful	Referred to this source and found it very useful	
Vocational guidance tests	☐	☐	☐	☐	30/x
Individual vocational counseling	☐	☐	☐	☐	31/x
Occupational reading materials	☐	☐	☐	☐	32/x
Advice from family	☐	☐	☐	☐	33/x
Advice from potential employers	☐	☐	☐	☐	34/x
Advice from faculty members	☐	☐	☐	☐	35/x
Part-time and summer jobs	☐	☐	☐	☐	36/x
Assistance from college placement services	☐	☐	☐	☐	37/x
Other ______ (please specify)	☐	☐	☐	☐	38/x

YOUR INTERESTS

41. During the past 12 months have you? (*Check one on each line*)

	Yes	No	
Worked on fund-raising drives for United Fund, or other such charitable organization	☐	☐	39/x
Worked on fund-raising for your church	☐	☐	40/x
Attended two or more theatrical productions	☐	☐	41/x
Attended two or more meetings of the PTA	☐	☐	42/x
Given one or more speeches	☐	☐	43/x
Published an article	☐	☐	44/x
Published a book	☐	☐	45/x
Run for, or held a public office	☐	☐	46/x
Attended one or more public lectures	☐	☐	47/x
Belonged to a service club (Rotary, Kiwanis, etc.)	☐	☐	48/x
Belonged to a veterans organization	☐	☐	49/x
Led, or assisted in the leadership of a scout troop or youth group	☐	☐	50/x
Attended a college alumni function or visited your undergraduate campus	☐	☐	51/x
Participated in a literary, art, discussion, or study group	☐	☐	52/x
Given money to your undergraduate college or university	☐	☐	53/x
Attended two or more opera or symphonic concerts	☐	☐	54/x
Belonged to a political club or political action group	☐	☐	55/x
Belonged to a labor union	☐	☐	56/x
Belonged to a professional association	☐	☐	57/x
Held two income-producing jobs at the same time	☐	☐	58/x
Served on church or synagogue board or committee	☐	☐	59/x
Visited an art museum	☐	☐	60/x
Wrote or talked with a public official about a current program or proposed bill	☐	☐	61/x
Attended religious services on a fairly regular basis	☐	☐	62/x

42. During the past 12 months, approximately how many of each of the following books or publications did you read? *(Check one on each line)*

	None	1 or 2	3 or 4	5 to 7	8 to 10	11 to 15	Over 15	
Books related to your work....	☐	☐	☐	☐	☐	☐	☐	63/x
Other non-fiction books	☐	☐	☐	☐	☐	☐	☐	64/x
Novels and other fiction books	☐	☐	☐	☐	☐	☐	☐	65/x
Periodicals related to your work (number you read on a regular basis)	☐	☐	☐	☐	☐	☐	☐	66/x
Other periodicals (number you read on a regular basis)	☐	☐	☐	☐	☐	☐	☐	67/x

MARRIAGE AND FAMILY STATUS

43. Are you . . . ? *(Check one)*

Single (never married) *(If so, skip to 48)* .... ☐
Married (first marriage) .... ☐
Married (second or later marriage) .... ☐
Divorced (not remarried) .... ☐
Widowed .... ☐ 68/x

44. When were you first married? 19.......... *(write in)* 69-70/

45. How many children do you have? .... *(write in)* 71/

46. When was your first child born? 19.......... *(write in)* 72-73/

74-79/R.

47. Answer the following for your wife (or if widowed or divorced and not remarried, answer on the basis of your former wife). *(Check one on each line)* 80/3

1-5/I.D.

	Yes	No	Don't Know	
Is she a college graduate?	☐	☐	☐	6/x
Does she have an advanced degree?	☐	☐	☐	7/x
Did she attend the same undergraduate college you did? ..	☐	☐	☐	8/x
Is she employed full time on a paid position?	☐	☐	☐	9/x
Is she employed part time on a paid position?	☐	☐	☐	10/x
Does she feel that you should switch to another employer?	☐	☐	☐	11/x
Does she feel that you should be in another occupation?..	☐	☐	☐	12/x
Does she feel that you spend too much time on your work?	☐	☐	☐	13/x
Does she object to the travel which your job requires?....	☐	☐	☐	14/x
Would she object if your job required that your family move to a new community?	☐	☐	☐	15/x
Do you discuss day-by-day job activities with your wife?...	☐	☐	☐	16/x
Do you discuss major job decisions with your wife?........	☐	☐	☐	17/x
Do you often follow your wife's advice about your job?....	☐	☐	☐	18/x

GEOGRAPHICAL MOBILITY

48. Which of the following best describes (a) the community in which you grew up when you went to high school and (b) the community in which you now live? *(Check one in each "vertical" column)*

	High School	Now	
Suburb in metropolitan area of over 1,000,000	☐1	☐1	
Suburb in metropolitan area of less than 1,000,000	☐2	☐2	
City of over 500,000	☐3	☐3	
City of 100,000 to 500,000	☐4	☐4	
City of 10,000 to 100,000	☐5	☐5	
City of less than 10,000	☐6	☐6	19
Farm or open country	☐7	☐7	20

49. Use the numbers to the left of the regions listed below in answering the following questions.

Write in the number of the region below to indicate where . . .

You were born .... ____ 21/
You graduated from high school .... ____ 22/
You lived immediately after college .... ____ 23/
You live now .... ____ 24/

Region number
1. New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont)
2. Mideast (Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania)
3. Great Lakes (Illinois, Indiana, Michigan, Ohio, and Wisconsin)
4. Plains (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota)
5. Southeast (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia)
6. Southwest (*Arizona, New Mexico, Oklahoma, and Texas*)
7. Rocky Mountains (Colorado, Idaho, Montana, Utah, and Wyoming)
8. Far West (Alaska, California, Hawaii, Nevada, Oregon, and Washington)
9. Outside of the United States

YOUR PERSONAL BACKGROUND

50. From which kind of high school did you graduate? *(Check one)*

Public high school	☐1	
Parochial high school	☐2	
Prep school or private high school	☐3	25/x

51. Please check highest educational attainment of your parents (or step-parents). *(Check one for each parent)*

	Father	Mother	
8th grade or less	☐1	☐1	
Some high school—no diploma	☐2	☐2	
High school graduate	☐3	☐3	
Some college—no degree	☐4	☐4	
College graduate	☐5	☐5	26/
Graduate or professional degree beyond the bachelor's	☐6	☐6	27/

52. If one or both of your parents are college graduates, were they liberal arts majors? (*Check one for each parent*)

	Yes	No	
Father	☐1	☐2	28/x
Mother	☐1	☐2	29/x

53. What was your father's (or step-father's or guardian's) occupation when you graduated from high school? (*Check one*)

Professional (teacher, dentist, engineer, etc.) ☐1
Proprietor (self-employed merchant, contractor, etc.) ☐2
Business official or executive (employed at a management level) ☐3
Salesman (wholesale or retail) ☐4
Clerical worker (bookkeeper, office machine operator, etc.) ☐5
Farm owner or manager ☐6
Technician (laboratory technician, draftsman, etc.) ☐7
Skilled worker (bus driver, plumber, factory machine operator) ☐8
Service worker (policeman, fireman, waiter, barber, etc.) ☐9
Laborer or farm worker ☐0
Other (*please specify*) ☐y
No father at that time ☐r 30/x

54. Are you . . . ? (*Check one*)

White ☐1
Negro ☐2
Oriental ☐3
Other ☐4 31/x

55. What is your current age? (*Check one*)

Under 26 ☐1
26–27 ☐2
28–29 ☐3
30–32 ☐4
33–35 ☐5
36–38 ☐6
39–41 ☐7
42–45 ☐8
46–50 ☐9
Over 50 ☐0 32/x

56. What was your approximate family income (after deducting business expenses) from all sources during the past tax year? (*Check one*)

Under $4,000 ☐1
4,000–5,999 ☐2
6,000–7,999 ☐3
8,000–9,999 ☐4
10,000–11,999 ☐5
12,000–14,999 ☐6
15,000–17,999 ☐7
18,000–20,999 ☐8
21,000–24,999 ☐9
25,000 and over ☐0 33/x

57. Which of the following best represents your political leanings (a) when you were a college senior and (b) at the present time? (*Check one in each "vertical" column*)

	As a college senior	Now	
Liberal Democrat	☐1	☐1	
Conservative Democrat	☐2	☐2	
Independent and liberal	☐3	☐3	
Independent and middle-of-the-road	☐4	☐4	
Independent and conservative	☐5	☐5	
Liberal Republican	☐6	☐6	34/
Conservative Republican	☐7	☐7	35/

58. Please answer:

a. Have you ever served in the armed forces? (*Check one*)

No ☐$_1$ (*If "No" skip to 59*) Yes ☐$_2$ (*If "Yes" complete this question*) 36/x

b. Did you serve in the . . .

	Army	Air Force	Navy	Marine Corps	Coast Guard	Other	
(*Check one*)	☐$_1$	☐$_2$	☐$_3$	☐$_4$	☐$_5$	☐$_6$	37/x

c. Did you serve . . .

	Before graduating from college	After graduating from college	Both before and after graduating from college	
(*Check one*)	☐$_1$	☐$_2$	☐$_3$	38/x

d. How many years—in all—did you serve on active duty? (*Check one*)

Less than one . . . . ☐$_1$
One . . . . ☐$_2$
Two . . . . ☐$_3$
Three . . . . ☐$_4$
Four . . . . ☐$_5$
Five . . . . ☐$_6$
Over five . . . . ☐$_7$ 39/x

e. What was your highest *active* duty (not reserve) rank? (*Check one*)

Private, Seaman, or Airman (second, third class) . . . . ☐$_1$
Corporal, Petty Officer (third class) or Airman (first class) . . . . . . ☐$_2$
Sergeant or Petty Officer (except third class) . . . . ☐$_3$
Warrant Officer . . . . ☐$_4$
Second Lieutenant or Ensign . . . . ☐$_5$
First Lieutenant or Lieutenant (junior grade) . . . . ☐$_6$
Captain (except Navy) or Lieutenant (senior grade) . . . . ☐$_7$
Major or Lieutenant Commander . . . . ☐$_8$
Lieutenant Colonel or Commander or higher . . . . ☐$_9$ 40/x

59. What was your religious preference when you graduated from college, and what is it now? (*Check one in each "vertical" column*)

	As a college senior, my religion was	Now, my religion is	
Baptist	☐$_1$	☐$_1$	
Congregational (United Church of Christ)	☐$_2$	☐$_2$	
Episcopal	☐$_3$	☐$_3$	
Jewish	☐$_4$	☐$_4$	
Lutheran	☐$_5$	☐$_5$	
Methodist	☐$_6$	☐$_6$	
Presbyterian	☐$_7$	☐$_7$	
Roman Catholic	☐$_8$	☐$_8$	
Other, Protestant Denomination	☐$_9$	☐$_9$	
Other, Non-Protestant Church	☐$_0$	☐$_0$	41/
None	☐$_x$	☐$_x$	42/

60. Which of the following best represents how important religion was to you when you were in college and how important it is now? (*Check one in each "vertical" column*)

	As a college senior, religion was	Now, religion is	
Very important	☐$_1$	☐$_1$	
Of some importance	☐$_2$	☐$_2$	
No opinion	☐$_3$	☐$_3$	
Of little importance	☐$_4$	☐$_4$	43/
Completely unimportant	☐$_5$	☐$_5$	44/

45-79/R
80/4

61. What advice would you give today's liberal arts students about selecting their careers?

62. Do you have any comments on the problems you have experienced during your working career?

THANK YOU AGAIN FOR YOUR COOPERATION.

PLEASE RETURN YOUR QUESTIONNAIRE IN THE ATTACHED SELF-ADDRESSED ENVELOPE.

NO POSTAGE IS NECESSARY.

№ 38037

Appendix D: Basic Classifications and Their Sample Sizes

Introduction

A number of general classifications have been employed in the main body of the report to describe or compare different types of liberal arts graduates. To simplify the presentation, individual tables in the text omit details on the various classifications and the number of alumni in each category.

This appendix presents a listing of the general classifications used in the report, indicates the inclusions of each category where this is not obvious, and reports the sample size of each category. This material is presented in tabular form on the following pages. For a more complete discussion of the control, size, and quality classifications, the reader is referred to Chapter II and Technical Note 1 of Appendix A.

The arrangement of classifications within the table is as follows:

Classification Numbers	Types of Classifications
1	Year of Graduation
2 - 6	Undergraduate College
7 - 10	Undergraduate Major and Academic Record
11 - 13	Graduate Training
14 - 20	Occupational Career
21 - 23	Personal Characteristics

Table D-1

Basic Classifications and Their Sample Sizes

Classification and Categories	Inclusions	Sample Size
1. Year of Graduation		
1948	Graduated July 1947 through June 1948	3545
1953	Graduated July 1952 through June 1953	3625
1958	Graduated July 1957 through June 1958	3707
2. Control of College		
Roman Catholic	Roman Catholic only	1224
Public	State or municipal	4008
Private	Protestant or secular	5645
3. Size of College		
Small	Under 2,500 students in fall of 1952[a]	3797
Medium	2,500 to 9,999 students in fall of 1952	4240
Large	10,000 students or more in fall of 1952	2840
4. Size of College: Detail		
Under 1,000 students[a]		1385
1,000 to 2,499		2412
2,500 to 4,999		1775
5,000 to 9,999		2465
10,000 to 13,999		901
14,000 or more		1939
5. Quality of College		
High	27 to 30 quality points[b]	2308
Medium	19 to 26 quality points	4937
Low	18 or less quality points	3632

[a] Includes both full-time and part-time students and those at the graduate and undergraduate levels. See Chapter II for a discussion of this classification.

[b] The construction of the quality index is described in Technical Note 1 of Appendix A.

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
6. College and University Typology		
Ivy League[c]	Brown, Columbia, Cornell, Dartmouth, U. Pennsylvania, Yale (25-30 quality points)[d]	1004
Big Ten[c]	U. Illinois, Michigan State, U. Michigan, U. Minnesota, Ohio State, U. Wisconsin (23-30 quality points)	876
Best Catholic universities[c]	Catholic U., Georgetown, Holy Cross (19-25 quality points)	253
Other best multi-purpose universities[e]	Other multi-purpose universities with 25 or more quality points	999
Best liberal arts colleges	Colleges with 25 or more quality points, except Roman Catholic	561
Average multi-purpose universities	Multi-purpose universities, except Roman Catholic, with 19-24 quality points	2537
Average liberal arts colleges	Colleges, except Roman Catholic, with 19-24 quality points	1014
Other Catholic universities and colleges	Roman Catholic universities and colleges with less than 19 quality points	970
Weakest multi-purpose universities	Multi-purpose universities, except Roman Catholic, with less than 19 quality points	1498
Weakest liberal arts colleges	Colleges, except Roman Catholic, with less than 19 quality points	1164

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[c] Obvious omissions are institutions not participating in the study.

[d] Quality points are defined in Technical Note 1 of Appendix A.

[e] A multi-purpose university was defined as one with at least three major divisions or schools including liberal arts.

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
7. Undergraduate Major: Detail		
Chemistry	Chemistry	884
Other physical sciences	Astronomy, geology, physics, paleontology	714
Biological sciences	Bacteriology, biology, biochemistry, biophysics, botany, genetics, general sciences, pre-dental, pre-medical, pre-vetinary, physiology, zoology	1459
Mathematics	Mathematics and statistics	562
Economics	Economics, business administration in liberal arts curriculum	1503
Other social sciences	Anthropology, archeology, general social science, history, geography, government, political science, psychology, sociology	3634
English	English, speech, journalism, dramatic art, general humanities	1275
Foreign languages	All foreign languages and linguistics	208
Philosophy	Philosophy and religion	407
Fine arts	Art, art history, decorative art, music, music history	222
No information	. . . .	9
8. Type of Major: Summary		
Science and math	Chemistry, other physical sciences, biological sciences, mathematics	3619
Social science	Economics and other social sciences	5137
Humanities	English, foreign language, philosophy, fine and applied arts	2112
No information	. . . .	9
9. Undergraduate Academic Record (From School Records)		
A	3.9 to 4.0 grade point average	60
A-	3.7 to 3.8 grade point average	234
B+	3.4 to 3.6 grade point average	575
B	3.0 to 3.3 grade point average	1345
B-	2.8 to 2.9 grade point average	1130
C+	2.4 to 2.7 grade point average	2304
C	2.0 to 2.3 grade point average	2469
D+	1.7 to 1.9 grade point average	331
D	1.4 to 1.6 grade point average	36
D-	1.3 grade point average or below	18
Not available	Not available from college	2375

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
10. Academic Record Summary		
High	A, A-, and B+	869
Average	B, B-, and C+	4779
Low	C, C-, D+, D, and D-	2854
Not available	Not available from college	2375
11. Highest Level of Education[f]		
Bachelor's	Bachelor's degree only. No advanced training	3443
Some graduate work (no degree)	Some graduate training but no degree received	1703
Master's	M.A., M.S., M.Ed, M.S.W., M.B.A., M.P.H., M.F.A., M.S.E., etc.	2348
Bachelor of Divinity	B.D., S.T.B., etc.	416
LL.B.	LL.B., J.D.	889
M.D., D.D.S., etc.	M.D., D.D.S., D.O., D.V.M.	1023
Ph.D., Ed.D., D.Sc., etc.	All other doctorates, except honorary	769
Other	Other professional and academic degrees including foreign not comparable to above	138
No answer		148
12. Highest Degree Earned: Summary		
Bachelor's[g]	Bachelor's, some graduate training with no degree, or "other"	5284
Master's	M.A., M.S., M.Ed., M.S.W., M.B.A., M.P.H.	2348
Professional	LL.B., B.D., M.D., D.D.S., etc.	2328
Doctor's	Ph.D., Ed.D., D.Sc., etc.	769
No answer		148

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[f] Graduates with multiple degrees were classified to the last appearing relevant category.

[g] Where intrinsically interesting, a distinction has been made between those alumni who report no advanced training and those who report some training but no advanced degree. In those cases, the term "Amount of Graduate Training" replaces "Highest Degree Earned."

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
13. Field of Graduate Study: Detail		
Chemistry	Chemistry	325
Other physical sciences	Astronomy, geology, meteorology, paleontology, physics	394
Biological sciences	Bacteriology, biology, biochemistry, biophysics, genetics, physiology, zoology	252
Mathematics and stat.	Mathematics and statistics	232
Economics	Economics	139
Other social sciences	Anthropology, archeology, general social science, geography, government, history, political science, psychology, sociology, criminology, and area studies (e.g. Asian studies)	861
English and speech	English, speech, dramatic art, journalism, general humanities, classics	388
Foreign languages	All foreign languages and linguistics	95
Philosophy and religion	Philosophy, logic, and religion	568
Fine and applied arts	Art, art history, decorative art, music, music history	111
Medicine	Medicine, osteopathy, chiropractic, etc.	877
Dentistry	Dentistry	173
Pharmacy and optometry	Pharmacy and optometry	28
Law	Law	1090
Education	Education and physical education	885
Social welfare	Social welfare	111
Engineering	Engineering	123
Architecture	Architecture, city planning, landscape architecture	28
Accounting	Accounting	59
Business administration	Business administration	452
Other fields	Agriculture, hospital administration, forestry and range management, librarianship, nutrition, and other	87
No graduate work		3443
No answer	No answer to graduate work or field of training	156

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size	
		First	Current
14. First and Current Occupation[h]			
Lawyer.	Lawyer only.	541	739
Clergyman	Clergyman only	432	421
Elem-Second. Teach.	Teacher or administrator in elementary or secondary school.	722	1035
College Teacher . .	Teacher or administrator in college or university (including junior college) . . .	933	826
Salesman.	Salesman retail or wholesale, insurance agent, stock or bond broker, real estate agent	960	1049
Social Serv. Worker	Psychologist, social or welfare worker, and social scientist except when college teacher	476	439
Medical Worker. . .	Physician, dentist, veterinarian, chiropractor, osteopath	911	925
Scientist-Math. . .	Biological scientist, chemist, engineer, mathematician, statistician, actuary, physicist, geologist or other physical scientist except when college teacher . . .	1401	1298
Fiscal-Office-Mgmt.	Accountant or auditor, banking or finance employee, buyer, manager of store, hotel, etc., personnel officer, claims adjuster, business trainee.	1854	1843
Creative.	Architect, editor, journalist, writer, creative or performing artist, public relations, commercial artist, production and administration of creative arts activities.	439	429
Other..	Farmer, government official, military serviceman or officer, technicians, optometrist, funeral director, union official, librarian, athlete, craftsmen, operatives, service workers, laborers . . .	1944	1038
No answer	Never employed, currently unemployed, student earning less than $4000 per year (even if employed part-time), no answer . .	218[i]	835[i]

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[h] First occupation was defined as the first full-time position held after receiving the bachelor's degree exclusive of summer only positions. Current occupation was the one held at the time of the survey.

[i] The number of "no answers" is greater for current occupation than first occupation because many graduates were engaged in graduate studies at the time of the survey, but nearly all had held at least one full-time job (a first job) since graduation from college.

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size	
		First	Current
15. Type of Employer in First & Current Job[j]			
Private Manufactur. .	Private manufacturing or mining concern (e.g. steel plant, clothing factory, oil refinery).	1831	1947
Private Non-Manufact.	Private non-manufacturing (e.g. telephone comp., construction company, wholesale or retail trade, law office).	2785	3225
Agriculture	Agriculture (privately owned farm)	32	37
Elem-Second. Schools.	Elementary or secondary schools.	1164	1115
Colleges-Universities	Colleges or universities	748	960
U.S. Military Service	U.S. Military Services, any branch	1541	484
Federal Government. .	Federal Government	568	600
State-Local Govt. . .	State, county, or local government (excluding schools, colleges, and universities).	505	449
Research Organiz. . .	Research organization or institute	266	285
Hospital-Church-Clin.	Hospital, church, clinic, or welfare organization.	1230	954
Other	Other types of employers (e.g. foreign govt.).	25	27
No answer	Never employed, currently unemployed, student earning less than $4000 per year (even if employed part-time), no answer .	182	794
16. Self-Employment, Ever or Current		Ever	Current
Yes	. . . .	1588	1498
No or no answer . . .	. . . .	9136	8615
Not employed.	Never employed or not currently employed (for current)	153	764

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[j] First occupation was defined as the first full-time position held after receiving the bachelor's degree exclusive of summer only positions. Current occupation was the one held at the time of the survey.

Table B-1.--Continued

Classification and Categories	Inclusions	Sample Size	
17. First and Current Annual Salary[k]		First	Current
Under $4000		5441	311
$4000 to $5999		3940	877
$6000 to $7999		920	2213
$8000 to $9999		218	2093
$10,000 to $11,999		99	1498
$12,000 to $14,999		46	1202
$15,000 to $17,999		22	614
$18,000 to $20,999		14	390
$21,000 to $24,999		3	129
$25,000 and over		12	449
No answer	No answer or never employed	153	1101
18. Number of Occupational Changes Since Graduation[l]			
None		5736	
One		3267	
Two		1258	
Three or more		463	
No answer	No answer or never employed	153	
19. Number of Types of Employers Worked For[m]			
One only		5441	
Two		3777	
Three		1223	
Four		242	
Five or more		41	
No answer	No answer or never employed	153	

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[k] First occupation was defined as the first full-time position held after receiving the bachelor's degree exclusive of summer only positions. Current occupation was the one held at the time of the survey.

[l] The count includes each change between the job descriptions listed in Question 23 of the Questionnaire (See Appendix C) and 30 additional divisions of "other." A change from A to B and back to A counts as two changes.

[m] The count includes the number of different types of employers worked for since graduation where the types are defined in classification 15 above.

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
20. Months of Unemployment Since Graduation		
None		7190
One		688
Two		694
Three or Four		887
Five to Eleven		725
Twelve or More		301
No Answer	No answer or never entered labor market	392
21. Race		
White		10,698
Negro		83
Oriental		55
Other		14
No answer		27
22. Marital Status		
Single		1494
First Marriage		8733
Second or Later Marriage		414
Divorced (Not Remarried)		165
Widowed		17
No Answer		54

Table D-1.--Continued

Classification and Categories	Inclusions	Sample Size
23. Residence by Region		
New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.	822
Mideast	Delaware, Washington, D.C., Maryland, New Jersey, New York, Pennsylvania.	2727
Great Lakes	Illinois, Indiana, Michigan, Ohio, Wisconsin	2061
Plains.	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.	897
Southeast	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia	1227
Southwest	Arizona, New Mexico, Oklahoma, Texas	651
Rocky Mountains . .	Colorado, Idaho, Montana, Utah, Wyoming. . .	352
Far West.	Alaska, California, Hawaii, Nevada, Oregon, Washington.	1836
Outside U.S. . . .	. . . .	250
No Answer	. . . .	54